A FEW MORE CASES JOIN THE THRONG

Low Temperature Model designed by Commercial Refrigerator Mfg. Co.

Commercial

THE Commercial Refrigerator Manufacturing Co., Los Angeles, Calif., has a display case which is adaptable to the retailing of quick-frozen products. It is a two temperature case designed for temperatures as low as zero.

This case pictured here has two decks for display under which there is a blind storage for surplus stock. This compartment in a ten-foot model will hold approximately twelve hundred pounds of assorted meats. A partition in the center of the case divides it into two separate sections. One side of the case can be operated at eighteen degrees temperature for frozen identifiable cuts of meat, and the other side at forty degrees for delicatessen and lunch meats.

"We have a large number of these models operating now around Los Angeles," George R. Lindahl, general sales manager, said, "and we are able to keep the meats indefinitely without discoloration or spoiling. We have special non-fogging front for holding the temperature down to zero without sweating or fogging between the glasses. Some of these cases are being used for displaying fancy ice creams of all kinds and they maintain a temperature of zero to five below zero. The ice cream stands up well and presents a very appetizing appearance.

"In these cases we have a special cooling arrangement so that the temperature is the same on all decks and circulation of air is reduced about eighty-five per cent. We have found from our experiments that the less movement of air you have over frozen meats the less discoloration takes place, so we are cooling all of our cases to prevent, as much as possible, rapid circulation of air over the meats."

PROPER LIGHTING

PROVISION for effective lighting is occupying the attention of designers of low temperature display cases. The use of several panes of glass for insulation purposes makes it difficult to light the cases properly from the outside, and lights inside have other drawbacks.

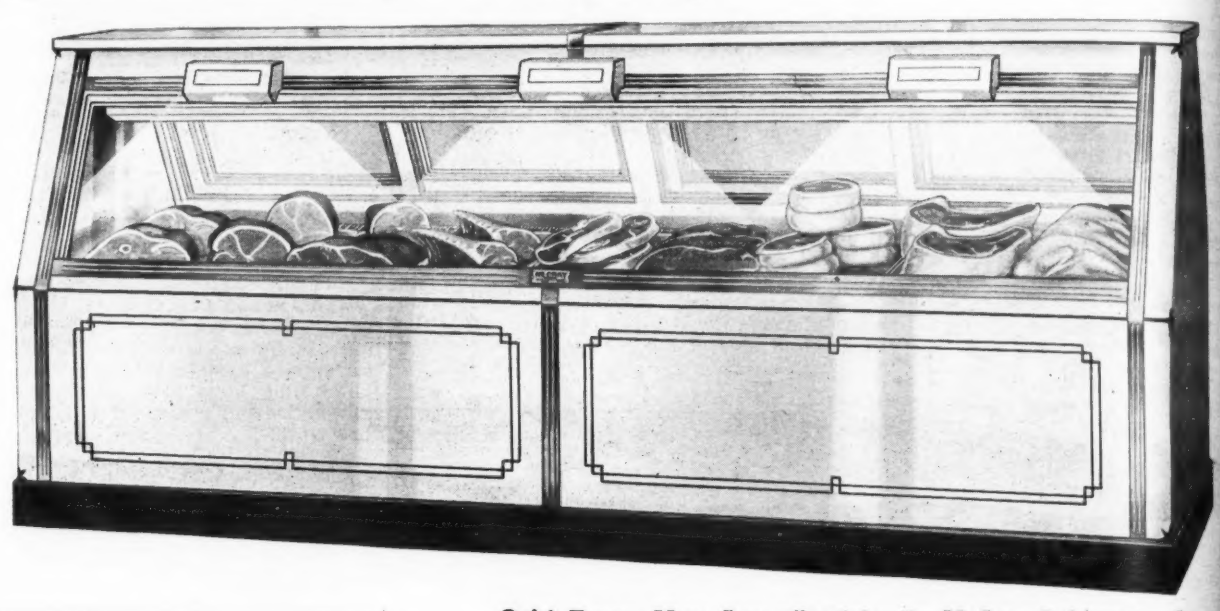
A number of different methods are being used by the manufacturers of display cases, and for the present there is little evidence of uniformity. Actual experience in the field is the best possible way to work out a solution for this sort of problem.

ROLLCALL

TWENTY-THREE companies have announced equipment designed for retailing and storing the new quick-frozen products in the columns of the NEWS. Manufacturers included in the first (March 23) and second (April 9) Refrigerated Food Sections are as follows:

American Foundry Equipment Co.
Blazek & Co.
Commercial Refrigerator Mfg. Co.
Downing Mfg. Co.
H. Ehrlich & Sons Mfg. Co.
Elkins Refrigerator & Fixture Co.
Federal Refrigerator Co.
Ford Refrigerator Co.
Frigidaire Corp.
General Electric Co.
Gibson Refrigerator Co.
C. V. Hill & Co.
Hussmann Refrigerator Co.
Koch Butchers Supply Co.
Ligonier Refrigerator Co.
Marsden Store Fixture House
McCray Refrigerator Co.
Northey Mfg. Co.
Nu Way Fixture Co.
Ottenheimer Bros.
Servel, Inc.
Smoot-Holman Co.
Warren Co.

McCray



Quick-Frozen Meat Case offered by the McCray Refrigerator Co., Kendallville, Ind.

Blazek

Style "H" Counter Manufactured by Blazek & Co., Chicago

EDUCATION

IS it really necessary to talk so much about the necessity for educating the retailer in regard to the proper methods of handling quick-frozen food? The man in charge of the distribution of the new packaged products for a branch house of one of the leading producers thinks that it is. He started out the other day on an inspection of the stores in which his company's quick-frozen products are being sold, and made some interesting discoveries.

All sorts and conditions of cases were being used, without much regard to the instructions which had gone out, but the climax came when he walked into a store and found the quick-frozen products peacefully reposing on a bed of cracked ice. Whether the food was cooling the ice or the ice was warming the food, was a question that still remains unanswered.

The educational campaign will be continued if he has anything to say about it.

Nu Way

THE present Nu Way freezer cases made by the Nu Way Fixture Co., Los Angeles, Calif., are the outgrowth of many years of research and experimenting in the endeavor to find a freezer case that would stand the test of the Imperial Valley and Arizona climates, where the temperatures reaches 128° F. in the shade, and still maintain the low temperatures required to keep fresh meat in perfect condition over a number of days without loss.

The Nu Way cases have been operated through the last two summers with entire satisfaction to everyone concerned.

Since the appearance of sharp frozen products on the market, the demand for a freezer case which would hold temperatures below freezing has been the problem of most manufacturers. Nu Way, by virtue of its previous experience, readily adapted their freezer case to meet this situation by increasing the exposed surface of coil area. Nu Way cases are sold complete with coils. These coils are of the direct expansion type. They are distributed throughout the case at the top and under the first and second shelves. "This coil arrangement," Nu Way engineers state, "insures an even distribution of cold and retards the circulation consistent with good refrigeration.

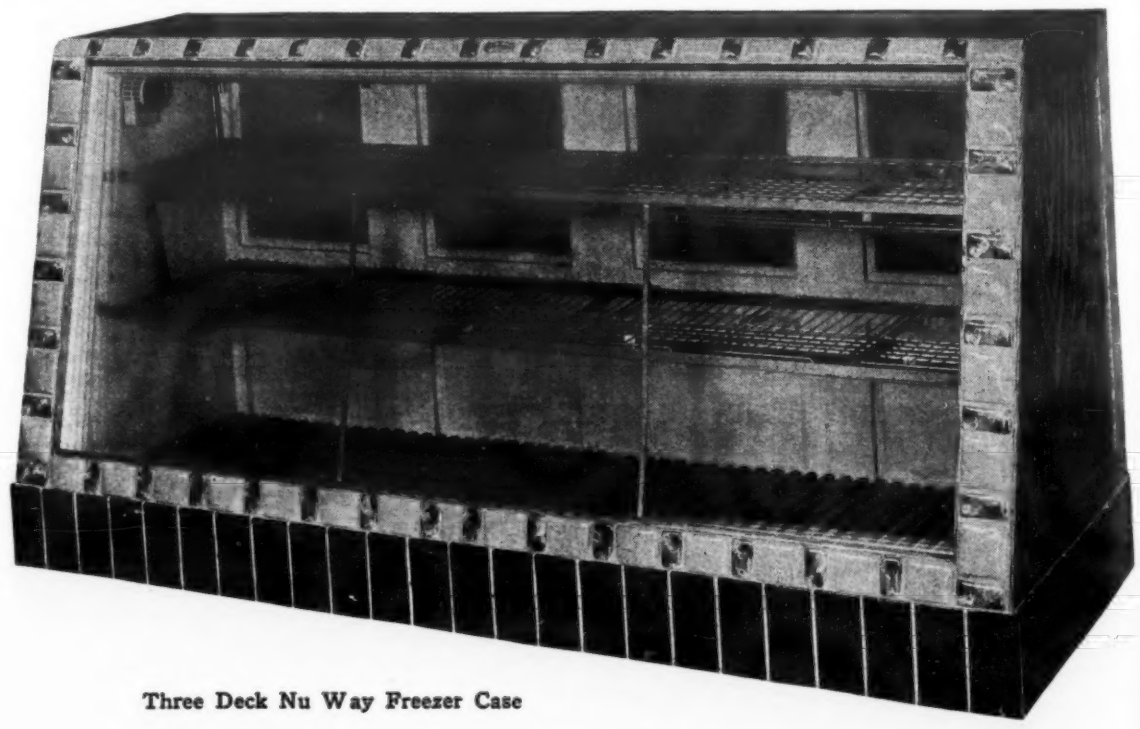
"For sharp frozen meats, fish and vegetables, a case temperature of 8 to 10° is maintained so that a factor of safety insures that with service the temperature will not rise above 18°, considered the best temperatures for the new product. For fancy ice cream displays, a zero temperature is maintained in the same manner. Nu Way cases have been held at 12° below zero with SO_2 machines for long periods of time with satisfactory results. Nu Way freezer cases have been in operation for over five months in displaying sharp frozen products with entire satisfaction, maintaining constant low temperatures without any loss of product whatsoever."

Nu Way freezer cases have four polished plate glass fronts and tops. These proved 20% more efficient than the three glass construction used two years ago by this company, giving better insulation and no condensation between the glasses. The cases are of oak exterior, spruce and metal lined, with 3" of corkboard insulation, and have beautiful heavy glazed tile fronts.

The door arrangement is such that there is a minimum of refrigeration loss through service. (There are ten doors on the 10" cases, and eight doors on the 8" cases.) The top doors open to the two top, or service shelves, from which the majority of products are sold. The bottom door opens to the bottom or storage compartment. The doors are of the hinge type.

Coils are of 18 gauge copper tubing tinned, and all fittings used within the case are either copper or brass. American Radiator thermostatic expansion valves are used in connection with low pressure control on various sulphur dioxide and methyl chloride machines. Heavy galvanized 1" pipe is used for ammonia installations.

"Where fresh meats are kept," Nu Way engineers say, "at temperatures of 34 to 37°, this temperature is maintained throughout the case with not over 1° differential between the top and bottom, ends and center. There are no warm spots in Nu Way cases. Meats so kept retain their color longer and do not dry out. The coils defrost between cycles of operation, insuring even humidity. This is, of course, where the refrigerant used is sulphur dioxide."



Three Deck Nu Way Freezer Case

In Two Parts—Part 1

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office.

The business newspaper of the refrigeration industry

ISSUED EVERY TWO WEEKS
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DETROIT, MICHIGAN, APRIL 23, 1930

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TWO DOLLARS PER YEAR

FRIGIDAIRE MAKES REFRIGERATOR TESTS WITH SIZZLING HEAT

Plans for Spring Drive Broadcast To Entire Country

Dayton, Ohio—Supported by the first advertisements of a special newspaper series involving the expenditure of $1,000,000 within ten weeks, Frigidaire Corporation's 1929 spring selling program got under way last week. A total of 2,550 papers are scheduled to receive copy.

The task of broadcasting the plans for the campaign to the vast Frigidaire organization was conducted with the precision of a military mobilization. The first step was to bring all of the distributors and branch managers to Dayton, where they spent two days (Friday and Saturday, April 11 and 12) discussing and endorsing the campaign. With this work accomplished they left for their homes and were followed twenty-four hours later by one hundred factory representatives fully equipped with literature, facts and figures regarding the plan of action. On the first three days of last week sales meetings were held in every section of the country, attended by all Frigidaire salesmen and dealers. Immediately after these meetings the factory men returned to Dayton and the sales force buckled down to work.

Within the short space of six days the entire Frigidaire organization was acquainted with the full details of the campaign.

Dealers everywhere opened the campaign in their communities with the showing of a new window display featuring a Frigidaire household model undergoing a severe heat test. With signs to the effect that "Heat is the Real Test of an Electric Refrigerator," the cabinet was exposed to the rays of a battery of electric heaters. A blistered thermometer hanging on the outside indicated a temperature of approximately 120 degrees, while ice cubes were being frozen in the trays within.

This test followed engineering experiments to determine how much heat a Frigidaire cabinet would withstand without interruption of service. Laboratory tests showed that a cabinet exposed to a radiant heat as high as 180 degrees still would provide satisfactory refrigerating temperatures and freeze ice.

The keynote throughout the campaign will be the statement that Frigidaire units in use now outnumber those of any manufacturer three to one, and are more than all others combined. Selling the need for electric refrigeration, which always has been a part of Frigidaire advertising copy, has been dropped altogether and copy now stresses only Frigidaire sales points. In adopting this advertising policy, Frigidaire officials explained that the electric refrigeration industry now has grown to a point where the public acceptance of its products makes educational copy unnecessary.

Distributors and branch managers of the corporation, who will help underwrite the advertising campaign, gave the whole sales program their enthusiastic endorsement at their regular meeting in Dayton April 11 and 12.

In explaining the program to them, E. G. Biechler, president and general manager, pointed out that first quarter indications of increasing prosperity in the refrigeration field and a pronounced increase in public preference for Frigidaire products since the first of the year were reasons for the adoption of this campaign.

"Production records in the Frigidaire factories for the first quarter were broken this year," he said. "Despite the installation of a large amount of labor saving machinery, more men are employed today than ever before at this time of year."

A special sales roll call of distributors and branch managers showed that during the four weeks preceding the meeting sales throughout the United States and Canada averaged 106 per cent of the quota which had been set for this period. Results of a special newspaper survey conducted in 100 representative cities during April, which indicated that 62.7 per cent of prospective women purchasers of electric refrigerators prefer Frigidaire, were presented at the meeting. The fact that more people visited the organization's display rooms during March than in the same month of 1929 was another reason for optimism.

Causes for business optimism expressed during the conference included strengthening of the stock market, as

(Continued on Page 2, Column 1)

COLD HANDS

JUST what sort of weather it is when the refrigeration boys get together, might have been officially determined the other evening when the following gentlemen assembled for a poker party in the home of J. P. Stevens, West Orange, New Jersey: B. T. U. Darby, Charles Friedberg, James S. Patterson of Domestic Electric Co., distributors of Frigidaire; Mr. Rieckers and Mr. Russell of the Philip Harrison Co., distributors of G. E.; John Howell of Electrolux, and J. P. Stevens of the Montgomery Engineering Co., distributors of Copeland in Northern New Jersey. Mr. Hecht, who is manager of the Montgomery Engineering Co., was unable to attend on account of the illness of his son.

The report of the party sent to the News is incomplete as it makes no mention of who won and who lost. Also it might be interesting to discover if the big loser began risking his precious prospects when his ready cash was gone.

Chicago Acquires New Set of Rules for Installing Refrigeration

Chicago, Ill.—A rather unexpected development in Chicago's refrigeration code situation was the issuance a few days ago by George E. Nye, chief inspector of the Department for the Inspection of Steam Boilers, Unfired Pressure Vessels and Cooling plants, of a set of rules governing the installation of refrigeration systems. The following notice was sent out bearing no date:

TO ARCHITECTS, ENGINEERS, MANUFACTURERS AND CONTRACTORS

SECTION 3679 of The Chicago Municipal Code of 1922 requires that it shall be the duty of the Chief Inspector of Steam Boilers and Steam Plants to inspect all refrigerating equipment installed in the city.

SECTION 3683 requires that a permit be obtained for such plants before they are installed.

By authority of these sections this department has issued a set of rules for construction and installation and no permits will be issued unless plants are installed in accordance with these rules.

Kindly call at this office, Room 601 City Hall, and obtain copy of Rules.

GEORGE E. NYE,
Chief Inspector.

An inspection of the rules reveals the fact that they follow fairly closely the code advocated by Gerald Gearon, Mr. Nye's chief deputy. This proposed code was published in the Aug. 14, 1929, issue of ELECTRIC REFRIGERATION NEWS on pages 20 and 21. The chief difference between the "Gearon Code" and the new rules is the omission from the rules of the elaborate set-up of inspection fees that were a part of the "code." There are other deviations of a minor nature and a general renumbering of the sections.

What the next move will be only time will tell. As indicated in the notice which he sent out, Mr. Nye has had the authority to promulgate a set of rules all along, but has chosen to wait until now to avail himself of that privilege.

MAJESTIC UTILITIES STARTED ON CAREER BY GRIGSBY-GRUNOW

New Corporation Formed To Make and Market Refrigerators

Chicago, Ill.—Public confidence in the Grigsby-Grunow Company as manufacturers, and in the electric refrigeration industry as a profitable field of endeavor, has been strikingly demonstrated in the last few days. After the first announcement printed in the January 29 issue of ELECTRIC REFRIGERATION NEWS, that the Grigsby-Grunow Company intended to enter the refrigeration business, practically nothing in regard to the new activity was made public until early this month, when a corporation called the Majestic Household Utilities Corporation was organized. This company's charter empowers it to make and sell a wide variety of domestic equipment, in addition to refrigerators, but for the present the company's work will be confined to the refrigeration field.

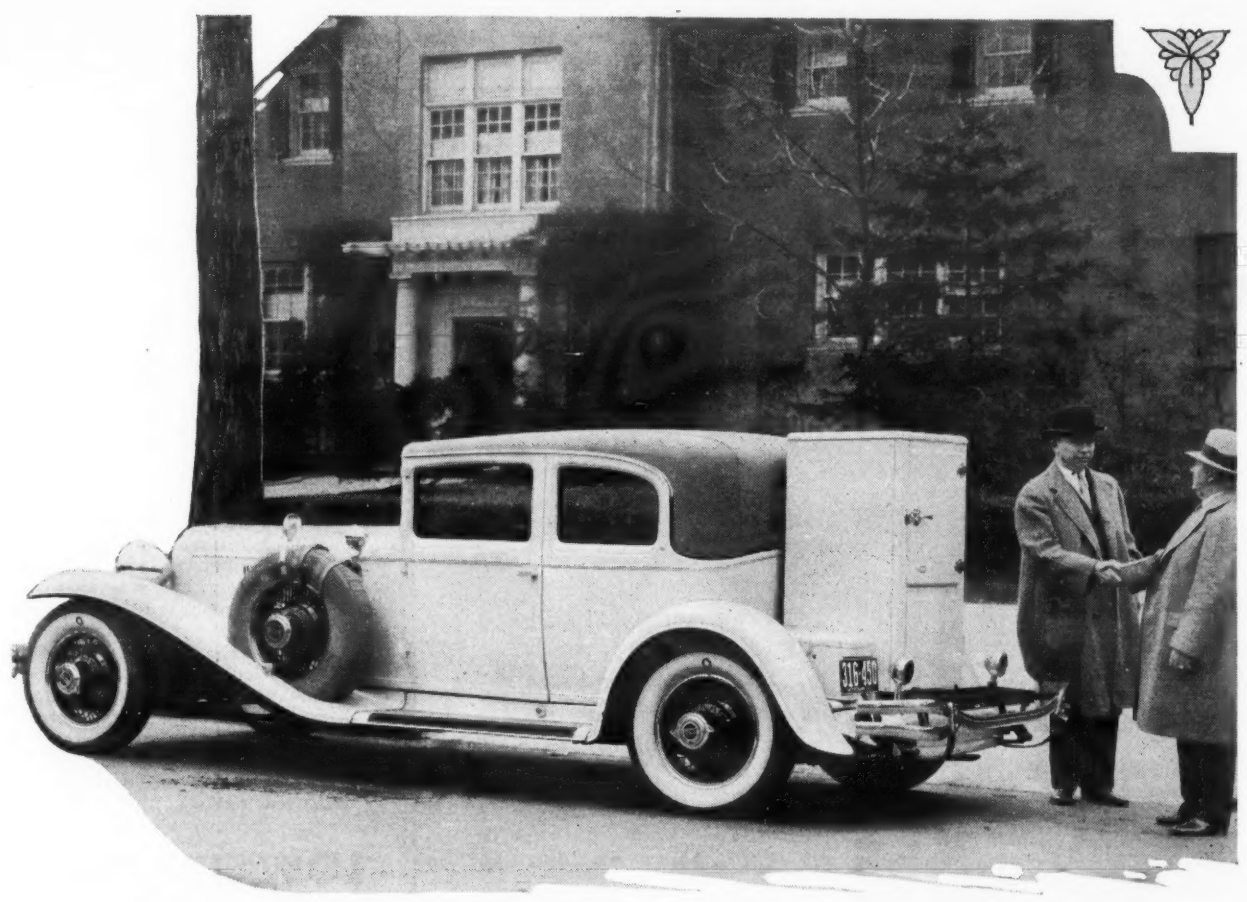
Announcement of plans for the sale of 374,950 shares of Majestic Utilities stock was made recently and in three days the offering was oversubscribed to such an extent that it became necessary to cut the subscribers' allotments and send back a portion of their remittances. The stock was put on sale on the Chicago Exchange, and the demand for it was so great that from the first it led all other stocks on the board.

The official statement in regard to the plans for the new company follows. It closes with a sentence that will be of interest to the entire refrigeration industry, and will set at rest many rumors in regard to the Grigsby-Grunow plans. This sentence says that every part of the Majestic refrigerator will be manufactured by the new corporation. The statement, dated April 15, reads:

"The board of directors of the Majestic Household Utilities Corporation, organized April 4th, which will manufacture electric refrigerators, was in session on April 14. This new corporation is an affiliate of the Grigsby-Grunow Company, which, through owner-

(Continued on Page 21, Column 2)

Norge Rides in Grandeur



G. E. "DROWNED IN WATER" DEMONSTRATIONS START

Cleveland, Ohio—The "Drowned in Water" demonstration is on! In the display windows of hundreds of stores of General Electric refrigerator dealers throughout the country, a standard domestic type of refrigerator has been placed, with a special glass tank enclosing the monitor-top. The tank is filled with water and the refrigerator is in actual operation, thus proving that the hermetically sealed refrigerating unit is moisture-proof.

A well-planned advertising and sales promotion campaign was credited with having started the demonstrations off successfully, the various local tests being opened on April 17, and they will continue for a period of five or six weeks.

In some dealer stores a garden hose arrangement has been set up by which water is poured continuously on the entire refrigerator.

Specially constructed glass doors were built in the cabinets on display in order that spectators could see the frost collecting on the refrigerating unit.

The idea of a nation-wide demonstration of this sort as a means of focusing attention on the General Electric had its inception following a series of tests to which the refrigerator was put at Schenectady, N. Y. In these tests a standard refrigerator was first covered with dirt and sand blasted, then, by the aid of a derrick, lowered repeatedly in the Erie Canal; after which it was placed outside in freezing weather and water was played upon it until it was completely covered with ice. As a final test, a fire was built around the re-

(Continued on Page 20, Column 3)

MAJOR HOWARD E. BLOOD, president, Norge Corporation, bids farewell and good luck, to E. E. McMullen (extreme right) director of the Norge Corporation and St. Louis, Missouri, distributor, in his novel scheme to obtain dealer distribution. The car is a Cord Victoria, specially built, and finished in cream tones to match the Norge "Sentinel" operated by batteries. (Details are printed elsewhere in this issue.)

DOUGLASS TAKES CHARGE OF COPELAND ADVERTISING

Mt. Clemens, Mich.—Announcement of the appointment of Ralph M. Douglass, as director of advertising and sales promotion of the company, is made by President Louis Ruthenburg, of Copeland Products, Inc. Mr. Douglass already has taken charge, succeeding William S. Race, who resigns.

This new appointment by Copeland brings back to the industry a veteran of electric refrigeration. For two and a half years previous to September, 1928, he was assistant and advertising manager of Kelvinator, resigning to become assistant to the general sales manager of Silent Automatic, manufacturers of domestic oil burners, later being named advertising manager, which he leaves to take over his present position.

Douglass is a graduate of Lake Forest University, a former athletic director and instructor of Greek and Latin at Dakota Wesleyan University, Mitchell, S. D., and for six years was with the Detroit College of Law and the Detroit Institute of Technology in charge of advertising and promotion. During the war he served as a commissioned officer in the United States Army.

NATIONWIDE TESTS SET NEW ICE FREEZING MARK

Detroit, Mich.—The Kelvinator Corporation recently sponsored a test of automatic fast freezing in Kelvinator domestic cabinets in 48 states and the District of Columbia. The average freezing time, taking the time reported and certified for all of the 49 cities where the tests were made was a fraction less than eighty minutes—to be exact 79 minutes and 17 seconds.

Each test was an official one, in every instance observed and the result certified by a prominent disinterested citizen of the city where the test was made. Those certifying these tests were mayors, newspaper publishers, editors and reporters, and prominent business men. The resulting average of less than 80 minutes is considered by Kelvinator to be a striking demonstration of the claims made in behalf of Iso-Thermic Tubes, a feature of the new line of domestic electric refrigerators.

In making the tests varying climates and conditions of water supply were encountered. Stock Kelvinator domestic models on the floors of the distributors' sales rooms were run for these tests.

Some remarkably low records were made. The lowest record was made at Bridgeton, N. J., 45 minutes. At Asheboro, N. C., ice was made in 56 minutes; at Columbia, S. C., 62 minutes; at Oklahoma City, 65 minutes; at Little Rock, Ark., in 59 minutes, certified by the mayors of Little Rock and North Little Rock, respectively. Were it not for a few high marks in some cities, due to mineral content of water that made it difficult to freeze, the average would have been well below 80 minutes.

ATTRACTIVE PLANS FOR SPRING A. S. R. E. MEETING

Atlanta, Ga.—On May 7, 8 and 9 the American Society of Refrigerating Engineers holds its first southern convention here. Pertinent subjects of interest to all refrigerating people will be discussed on this occasion, the seventeenth spring meeting of the society. The members in Atlanta will be the hosts of the society through a local committee under C. Thomas Baker, consulting engineer of that city. This committee and the council of the A. S. R. E. have issued open invitations to southern guests to join with the members of the society and a program for the three days has been announced.

Convention headquarters will be at the Biltmore, where single rooms with bath can be had for four and five dollars each per day, double rooms for six dollars, and double rooms with twin beds, eight dollars. Thirty single rooms are also available at three dollars and fifty cents each. Other hotels, the Henry, Grady, Piedmont, Ansley, and the Winecoff, offer single rooms with bath at prices from three up to five dollars per day. Plenty of accommodations have been arranged by C. T. Baker, chairman of the Atlanta committee, to house the delegates during their stay in the southern city. Hotel reservations can be made through the New York office of the Society, or by writing Mr. Baker at Candler Bldg., Atlanta.

The program has been arranged with equal attention to the vacation spirit and the technical spirit, being held at the best time of year in Atlanta. The technical meetings will be confined to the mornings of the three days, with numerous entertainment events and inspection trips arranged for the afternoons. A banquet and dance is scheduled for Thursday evening, for which special southern entertainment has been arranged. Attention to women guests has become a regular plan with these spring meetings, and members are as usual expected to bring their wives and families.

The third day will include joint events with the council of the National Association of Ice Industries, which will meet

(Continued on Page 4, Column 4)

PRECISION MARKS START OF FRIGIDAIRE'S DRIVE

(Concluded from Page 1, Column 1)

an indication of increased industrial activity; easier money; increased building; termination of deferred payment contracts; spring buying; larger bank clearings, and depleted inventories.

"These reasons, together with our conviction regarding the soundness of the electric refrigeration market, have prompted Frigidaire Corporation to show its faith in continued economic improvement by launching the present sales campaign," Mr. Biechler said.

"Public interest in the subject of electric refrigeration is greater than ever before. Years of pioneering work on the part of our company have had their result. People everywhere are awake to the advantages of electric refrigeration. No longer is it necessary to tell them of the need. We believe now is the time for us to tell them why their choice of an electric refrigerator should be Frigidaire, and give them sound reasons for making this choice."

Planned months in advance, the big sales campaign was launched with the precision and regularity of clockwork. Immediately following the distributors' meeting, 100 district sales managers, who also attended the conference, went back to their respective territories to lay the groundwork for their local campaigns. Because of the great volume of promotional matter that had to be taken into the field, they carried some of it as baggage. The sales managers left Dayton Friday night. The distributors and branch managers left Saturday night. Between Saturday night and Sunday night the 100 members of the factory supervisory organization also departed, bearing the remainder of the material needed to get the campaign under way in all parts of the country.

Beginning Monday morning, and continuing until Wednesday night, the series of sales meetings was held, reaching every dealer and salesman in the United States and Canada. Every piece of direct mail literature, demonstration charts, and other sales helps for the field organization at these meetings was on hand to be handed to the selling men as they passed out the door.

The entire sales program has been coordinated around the same theme. Sales promotional helps, direct mail, advertising, demonstrations, etc., all stress the features of Frigidaire, the General Motors guarantee and the "three times as many" statement.

The guarantee, which appears in every newspaper advertisement, reads as follows: "Frigidaire is sold with a definite guarantee, backed by General Motors. And still more important to you as a purchaser is the fact that year after year Frigidaire will continue to give satisfaction long after the guarantee has expired. If service should be required, it is rendered instantly and without removing the machine from the premises."

Other features of Frigidaire which are being emphasized in this sales program are its porcelain-on-steel finish; surplus power; the cold control; the hydrator; location of the unit at the bottom of the cabinet; elevated food shelves; low first cost and low operating cost.

New billboard postings are getting new posters as another part of the big advertising campaign, it was announced.

Announcement of this campaign has brought indications that Frigidaire's sales building effort this spring is being watched with interest by other branches of American industry. Congratulatory letters and telegrams received by Mr. Biechler from business leaders predicted that this display of confidence will have a beneficial effect on business generally.

No time was lost in getting the heat test before the public. A photograph on page 24 of this section of the NEWS shows a Frigidaire withstanding the torrid attack of half a dozen electric heaters. Ice freezing is going on inside.

Factory Representatives Carry Campaign to Country

Frigidaire men from Dayton ready to take "Multi-Cold" message to every state.

METHYL CHLORIDE WITH ACROLEIN NOW READY FOR MARKET

THE Roessler & Hasslacher Chemical Co., 10 East 40th Street, New York, N. Y., announces to the trade that it is now ready to offer methyl chloride to which is added 1 per cent by weight of acrolein. This mixture will be known as Arctic "A."

As yet, the company is not in a position to supply concentrated acrolein, nor does it favor supplying it. This, company officials state, is on account of the difficulty in handling acrolein. However, the company is working on a method for supplying acrolein in higher concentrations, probably in methyl chloride, as a solvent for the purpose of adding it to installations in the field already charged with methyl chloride.

Recently a bulletin issued by the technical department of the Roessler & Hasslacher Chemical Co. was devoted to this latest development. It is entitled, "Arctic 'A'-Methyl Chloride, plus 1% Acrolein," and lists the following data:

Acrolein — Sometimes called Acrylic Aldehyde.

It has the formula $CH_2{:}CH.CHO$.

Molecular weight, 56.032.

Boiling point, 52° C., or 125° F.

Melting point, —87° C., or —128° F.

Specific gravity, liquid, 0.86205 at 0° C. (32° F.).

Flash point, +22° C., or 71° F.

Solubility

Soluble in 2—3 parts water, in ether and ethanol; also methyl chloride.

Vapor Pressure

At 10° C..... 137 mm.
At 30° C..... 330 mm.
At 50° C..... 678 mm.

Toxicity

Quoting the Chemical Warfare Service, U. S. War Department:

Lowest concentration producing 60% deaths when inhaled by white mice for ten (10) minutes—0.3 to 0.4 mg. per litre.

Irritates the nose—0.009 mg. per litre.

Irritates the throat—0.010 mg. per litre.

Irritates the eyes—0.010 mg. per litre.

Produces lachrymation—0.015 mg. per litre.

1 cu. ft. Acrolein equals 0.14 lb. or 63.5 gms. at 70° F. The Bureau of Mines, U. S. Dept. of Commerce, has approved the use of methyl chloride containing 1% acrolein.

Chemical Test

Regular Schiff's reagent test for aldehyde will apply.

Charging or Transferring Arctic "A"

In order to secure a uniform mixture of acrolein and Arctic it is recommended when charging Arctic A into a refrigerating unit or transferring it from cylinder to cylinder that it be done in the liquid state by inverting the cylinder, rather than as vapor as is customary with Arctic.

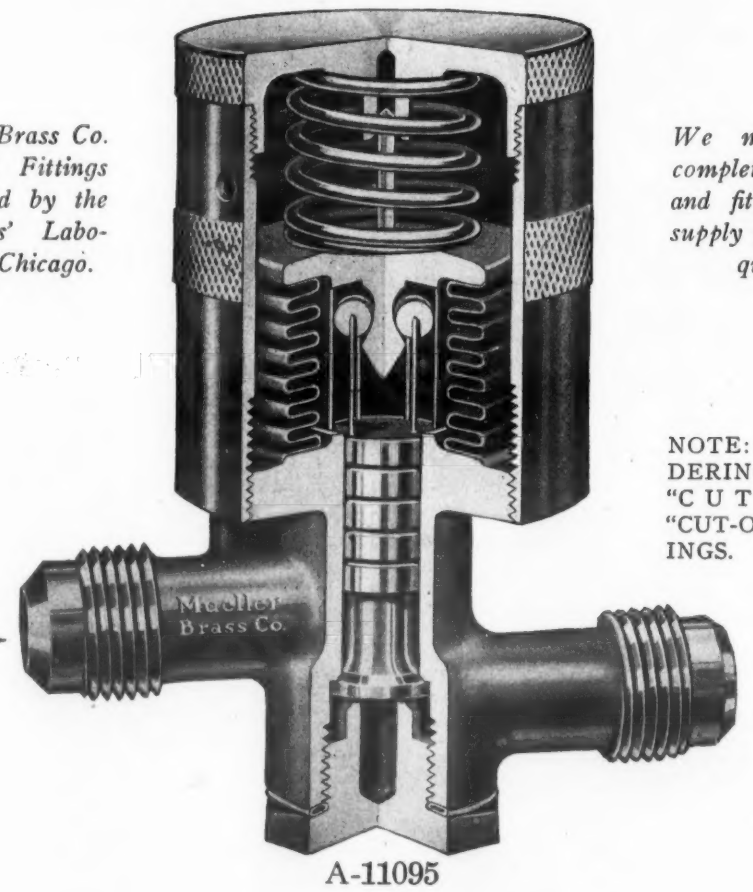
Cylinders

Arctic A is shipped in cylinders painted dark green and under the same shipping regulations as is Arctic.

MUELLER

Two-Temperature Control
SNAP VALVE

Mueller Brass Co. Valves and Fittings are approved by the Underwriters' Laboratories of Chicago.



A-11095

We manufacture a complete line of valves and fittings and can supply your every requirement.

NOTE: WHEN ORDERING SPECIFY "CUT-IN" AND "CUT-OUT" READINGS.

This valve is so constructed as to make it a real aid to the service man. By merely turning the outside knurled case he can raise or lower the temperature without danger of losing the differential which was previously properly set.

The differential is built into the valve and cannot be changed.

The temperature range may be changed without the necessity of a recheck or numerous visits of the service man.

Simplicity of construction insures a long and trouble proof life.

The snap action feature prevents seat erosion and assures uniform performance.

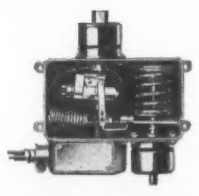
The body is a brass forging, thus making it seep proof and free from defects.

Mueller Brass Co.

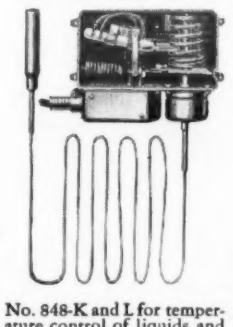
PORT HURON, MICHIGAN

THREE GENERATIONS OF BRASS MAKING

LOW SIDE PRESSURE *or* TEMPERATURE CONTROL *and* HIGH SIDE CUT-OUT IN ONE



Model 1BA for low side control by pressure. Adjustable range—any cut-in or cut-out points between 25 inches vacuum and 25 lbs. pressure. High side cut-out—adjustable for pressures up to 160 lbs.



No. 848-K and L for temperature control of liquids and gases, adjustable range—K minus 30° to plus 60°. L-1 from plus 10° to 70°.

MERCOID

HERE is a new improved Dual Mercoid that has made an instantaneous appeal to refrigeration engineers everywhere. Pressure control or temperature control of the low side and high-pressure cut-out on the high side are combined in one instrument. It is especially adapted for use with Multiple Hook-ups, ice-cream cabinets and general commercial work. It is adjustable over a wide range to furnish "cut-in" and "cut-out" at any desired pressure of temperature.

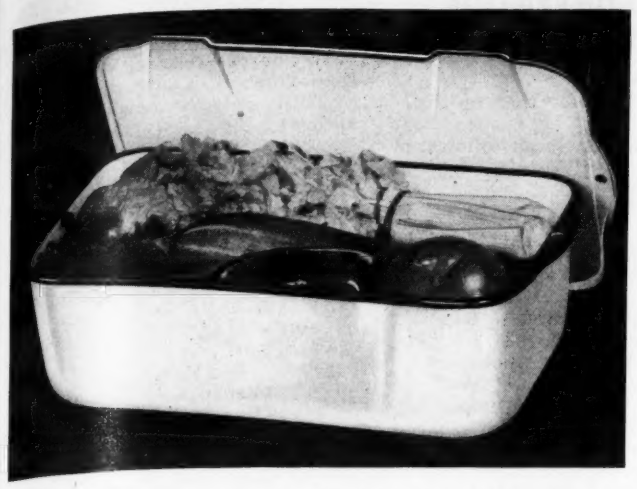
These controls operate with the well-known Mercoid switch—no exposed arc—no corrosion of contacts—and the control carries full line current, either 110 or 220 volts.

Write today for complete information on these instruments and the Solenoid Valve for water-cooled units.

AMERICAN RADIATOR COMPANY

Accessories Divison, Dept. MER-S
40 West 40th Street, New York, N. Y.

MER-10



VEGETABLE CHILTRAY *By* SEEGER

For the keeping of Lettuce, Celery, Parsley, Radishes, Tomatoes and other greens in a crisp, snappy wholesome condition, retaining original freshness and flavor.

Individual features in

CABINETS BY

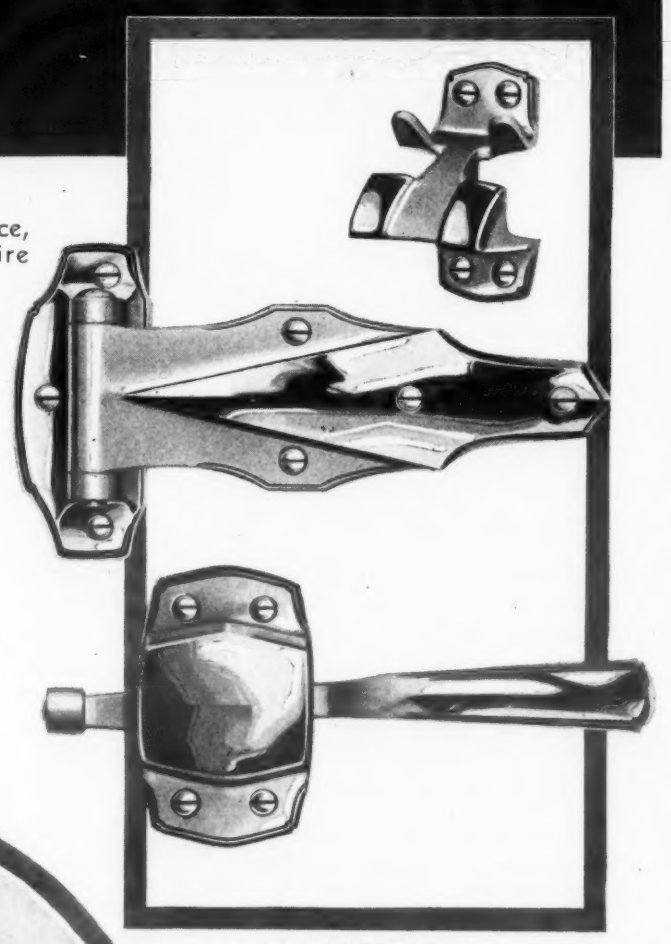
Seeger

SAINT PAUL

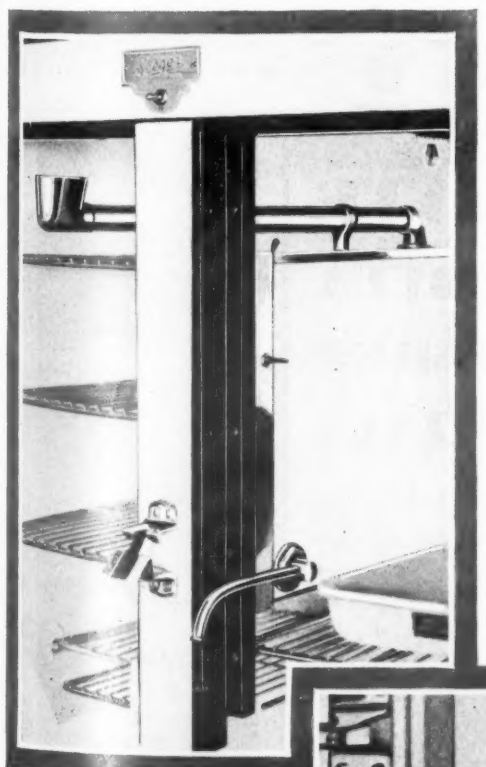
A presentation of some of the exclusive features in the residence line Cabinets by Seeger, for the convenience of the purchaser. These outstanding adjuncts to the admittedly sturdy construction, adequate insulation and thoroughly competent refrigeration cabinets are sales promoting factors.

For easy and quick sales nothing equals this new and beautiful Residence line. Display of Cabinets by Seeger are an asset for progressive dealers.

ELECTRIC LIGHT
A revelation in convenience, clearly illuminating entire Cabinet interior.

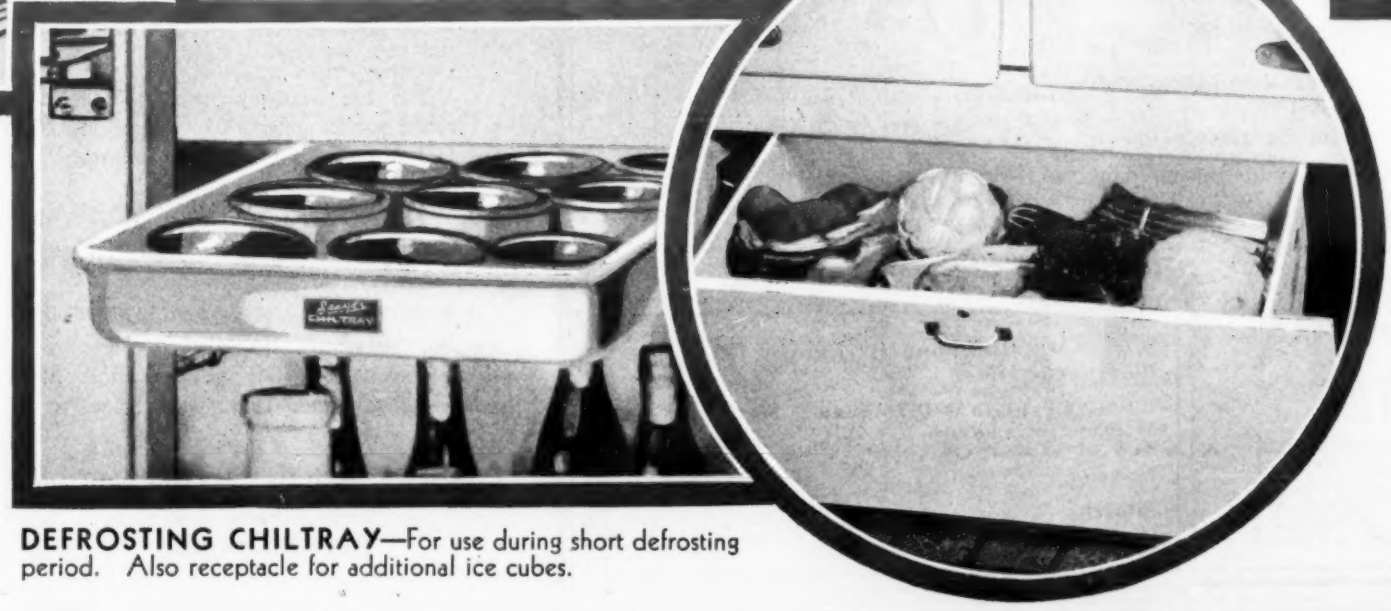


THE HARDWARE
Chromium Plated hinges, and roller type locks—modern in appearance and practical in performance.



SEEGER WATER TANK
A novel and unique innovation for cooling water—convenient, practical and simple in operation.

VEGETABLE BIN
For the specific purpose of fruit and vegetable storage—food conveniently accessible.



DEFROSTING CHILTRAY—For use during short defrosting period. Also receptacle for additional ice cubes.

SEEGER REFRIGERATOR COMPANY
SAINT PAUL, MINNESOTA

389 Madison Ave.
New York, N. Y.

26-28 Providence St.
Boston, Mass.

655-657 So. LaBrea Ave.
Los Angeles, Calif.

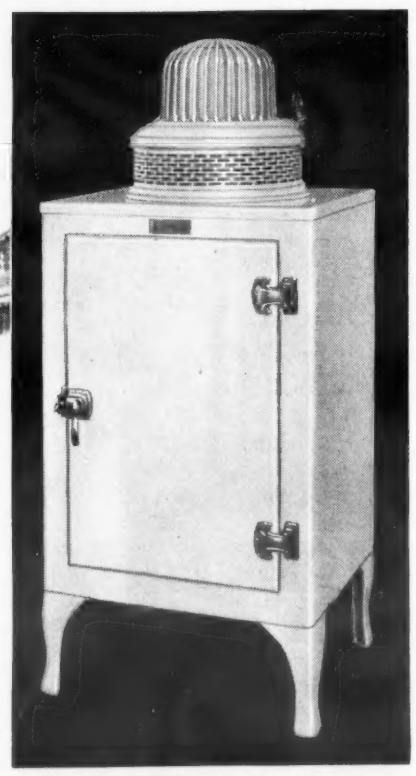
228 No. LaSalle St.
Chicago, Ill.

Tons and Tons of Literature Go Forth for "Multi-Cold" Campaign

Special boxes for the literature were constructed and taken as baggage by the Frigidaire men.

MORE PROFIT because more prospects want the 15 features combined only in WILLIAMS ICE-O-MATIC

NEW
CAPITOL
MODEL



WILLIAMS low-priced new Ice-O-Matic combines—for the first time—the 15 most salable features of modern electric refrigeration. Read this list of Williams improvements, see how they help you sell every type of prospect.

Now, before your biggest selling season, get all the facts on Williams complete new line of domestic and commercial models. Wire or write *right* now for information on the new Ice-O-Matic sales franchise for your territory. Dealing directly with the Williams factory gives you full discount.

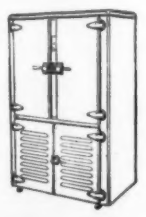
ICE-O-MATIC CAPITOL FEATURES

1 Unit on top or inside cabinet
2 Hermetically sealed, accessible mechanism
3 Greater refrigerating capacity
4 Forced circulation of cooling air
5 Mechanism operates shorter time, uses less current
6 Temperature control for quicker freezing
7 Ample ice cube capacity
8 Porcelain lined cabinet—easily cleaned
9 Three-inch insulation—moisture proof
10 Roomy, convenient food compartment
11 Constant, healthful low temperature
12 Plugs into light socket—simply as a lamp
13 Satin finish hardware
14 Quiet operation—no radio interference
15 Built Williams way for lifetime service

NEW CAPITOL MODEL

$175 and up at factory

The larger Williams Ice-O-Matic unit may be enclosed in any of five sizes of Crysteel Cabinets, or it may be installed in the basement. Size P-6 is shown



ICE-O-MATIC DIVISION
WILLIAMS OIL-O-MATIC HEATING CORPORATION
Bloomington, Illinois

RADIO—*Williams Oil-O-Matics*—SUNDAY EVENING, 7:30 to 8:00 (Eastern Time) NBC Chain, WJZ, WBZA, WBZ, WLW, WHAM, WJR, WGN, KWK, WREN, KOA and KSL. WEDNESDAY EVENING, 7:30 to 8:00 (Eastern Time) KDKA. WEDNESDAY EVENING, 7 to 7:30 (Pacific Time) KJR, KEX, and KGA. THURSDAY EVENING, 8:00 to 8:30 (Central Time) WGN. SATURDAY EVENING, 8:00 to 8:30 (Pacific Time) KFRC, KMJ and KHJ.

E.R.N.—4-30
WILLIAMS OIL-O-MATIC HEATING CORP.
Bloomington, Ill.

Please explain Williams Ice-O-Matic and the Williams Sales License.

Name.....
Address.....
City and State.....

A. S. R. E. CONVENTION

(Concluded from Page 1, Column 5)

in Atlanta during the same time as the A. S. R. E.

The tentative program is as follows:

WEDNESDAY

9:30 a. m. Registration Opens
Council Meeting
10:30 a. m. First Session
Topic: Low Temperature Refrigeration Problems—Chairman, Harry D. Edwards, President of the Society
"Tests on Solid CO_2 and Water Ice"—F. W. Rabe, Engineer, Anheuser-Busch, Inc., St. Louis, Mo.
"Latent Heats of Common Edibles"—A. H. Cooper, Mechanical Engineering Dept., University of Tennessee, Knoxville, Tenn.
"Low Temperature Refrigeration for Retail Merchants"—R. E. Ottenheimer, Ottenheimer Bros., Baltimore, Md.
"Low Temperature Display Cases"—G. J. Hopkins, Chief Engineer, McCray Refrigerator Co., Kendallville, Indiana.
"Refrigeration and the Fisheries"—D. B. Finn, Director, Biological Board of Canada, Fisheries Experimental Station, Prince Rupert, B. C. (presented by title only in absence of author)

THURSDAY

9:30 a. m. Second Session
Topic: Refrigerating Machinery and Equipment — Chairman, Alvin H. Baer, Vice-President of the Society
"Automatic Refrigerating Controls"—C. P. Goree, Jr., Frick Company, Atlanta, Ga.
"Tests on Refrigerating Low Sides"—F. E. Stewart, Associate Professor, Dept. of M. E., Georgia School of Technology, Atlanta, Ga.
"Engineering Development Procedure and Organization Responsibility for Electric Refrigerator Production"—M. C. Terry, Chief Engineer, Refrigeration Div., Westinghouse Elec. & Mfg. Co., Mansfield, Ohio
"Vacuum as an Insulator"—C. O. Duevel, Jr., Research Director, American Thermos Bottle Co., Norwich, Conn.
"Application of the A. S. R. E. Refrigerator Test Code"—R. T. Frazier, Tennessee Furniture Corp., Chattanooga, Tenn.

FRIDAY

9:30 a. m. Third Session
Topic: Refrigerating Plants and Applications — Chairman, George B. Bright, Past President of the Society
"Aspects of Refrigeration in Candy Manufacture"—Tresper Clarke, Chemist, Nunnally Company, Atlanta, Ga.
"Frozen Fruits a Factor in Marketing Surplus Products"—W. R. Tucker, Agricultural Development Agent, Atlanta, Birmingham and Coast Railroad, Atlanta, Ga.
"Value of Uniformity in Plant Design"—E. K. Strahan, Consulting Engineer, New Orleans, La.
"Some Railroad Problems in Perishable Shipment" — A. J. Lorion, Freight Container Bureau, American Railway Association, New York, N. Y.
"Practical and Ideal Refrigerants"—J. B. Churchill, Consulting Engineer, New York, N. Y. (To be presented by title only, discussion lead by author)

Entertainment

WEDNESDAY

10:30 a. m.
Tour for ladies, assembly at the hotel
Trip to Wren's Nest, Burns Cottage Club, and the Cyclorama of the Battle of Atlanta
Luncheon at the East Lake Country Club
1:15 p. m.
Welcome Luncheon at the hotel for members and guests
Speaker: W. R. Woolrich, Professor of Mechanical Engineering, University of Tennessee, Knoxville, Tenn.
2:45 p. m.
Tour for entire party to Stone Mountain, assemble at the hotel—(weather permitting; if not, trip will take place Thursday at the same hour)
8:30 p. m.
Popular illustrated lecture at the hotel (speaker to be announced), followed by dancing and refreshments
Motion Pictures—"Tunneling the Cascades" and "Through the Panama Canal"

THURSDAY

11:00 a. m.
Tour for ladies, assembly at the hotel
Inspection of residential section of Atlanta and the High Art Museum
2:30 p. m.
Tour for entire party
Inspection of Coca Cola plant, and new Fox Theater; side trip to Warren Refrigerator Company plant
Reception at the Georgia School of Technology
7:00 p. m.
Banquet
Speaker: Lewis F. Gordon, G. M., *Southern Power Journal*, "The New Industrial South"
Special entertainment and music; dancing

FRIDAY

11:00 a. m.
Ladies assemble for shopping tour
1:00 p. m.
Luncheon for party: arrangements to be announced

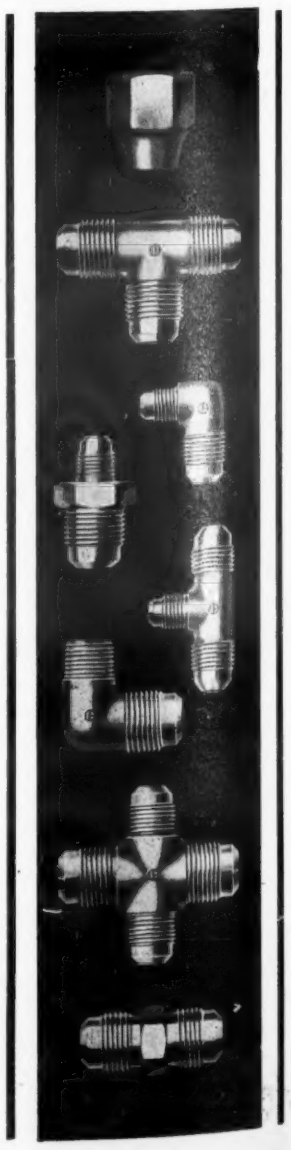
KELVINATOR SALES GOOD IN SEATTLE TERRITORY

Seattle, Wash.—Following the completion of an extensive expansion program in the northwest, Gordon J. Malone, head of the Seattle Kelvinator sales organization, reports a 53 per cent increase of business over a similar period one year ago.

ATLANTA PASSES MULTIPLE REFRIGERATION CODE

Atlanta, Ga.—An ordinance regulating the installation of multiple refrigeration systems has been passed by the City Council. The regulations are based upon the latest revision of the refrigeration code of the National Board of Fire Underwriters' Laboratory.

ACCURATE FROM FORMULA TO FINISHED FITTINGS



Commonwealth hot forged brass fittings for automatic refrigeration are accurate in every respect. Beginning with metal of correct formula, every fitting is held to close limits in machining, is carefully inspected and packed to insure delivery with unmarred, un-nicked tube seat ends.

What this accuracy means to the finished job is reflected in the saving of labor in installations and service calls.

Commonwealth Brass Fittings are

"BUILT RIGHT — TO STAY TIGHT"

Send for your copy of Catalog No. 36, describing the most complete line of seepage proof refrigeration fittings on the market.

COMMONWEALTH BRASS CORPORATION
Commonwealth and G. T. R. R.
DETROIT, MICH.

NOW THE NEW MULTI-COLD FRIGIDAIRE

...offering 5 types of refrigeration *in one cabinet*

+ + +

The most complete refrigeration service offered by any refrigerator

There's no other refrigerator like it... *it offers* MOIST COLD... DRY COLD ...NORMAL FREEZING ... ZERO FREEZING ... COLD JUST ABOVE FREEZING ... *all within the same cabinet.* Look at the picture. Note the inner doors. Behind the door at the top, you'll find three trays for freezing ice and desserts. Just below you'll see a large container that is big enough to hold a seven-pound fowl or a generous supply of steaks and chops. Here foods can be kept *at temperatures far below freezing—indefinitely.* Here is storage for ice cubes, ice cream or desserts that should be kept frozen until ready to serve.

And behind the lower door is a compartment with two large Hydrators for keeping a peck and a quarter of vegetables fresh and full flavored until used. This same compartment also provides ample space and ideal temperature for milk and other bottled goods.

All of these features are included *in only half of the cabinet.* The other half is left for foods that require *normal* refrigeration. Temperatures in this part of the cabinet are always well below 50 degrees.

And of course the new "Multi-Cold" Frigidaire has the famous "Cold Control." Of course, it is operated by the extra-powerful, incredibly quiet Frigidaire power unit. It is quiet and

it stays quiet. And like every household Frigidaire, the new "Multi-Cold" is Porcelain-on-steel inside and out—strikingly beautiful and easy to clean.

It's a model that offers Frigidaire dealers an unequalled opportunity—an opportunity to sell the thousands of people who have *waited* for just such an electric refrigerator.

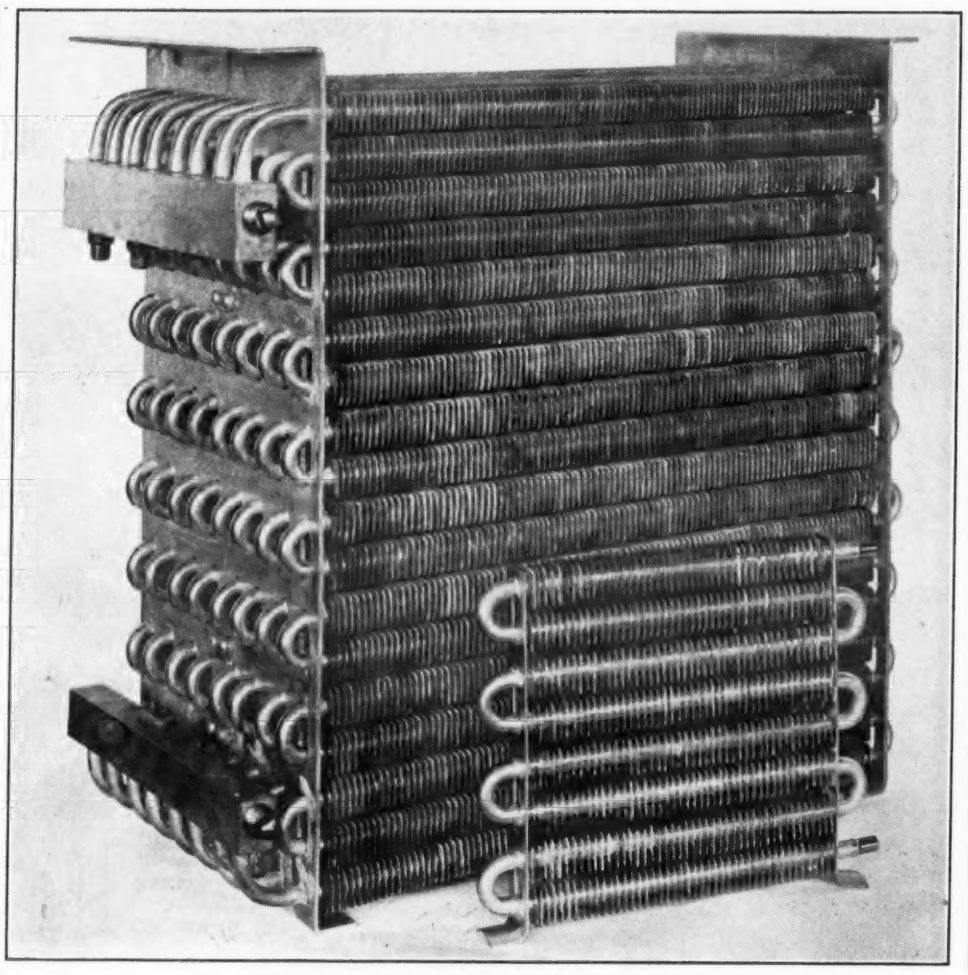
FRIGIDAIRE CORPORATION, *Subsidiary of General Motors Corporation,* Dayton, Ohio

FRIGIDAIRE

There are now *3 times* as many Frigidaires in use as any other make of electric refrigerator

BUSH

CONDENSERS AND FINNED TUBING



Extensive facilities for manufacturing condensers and evaporators of any size

SEAMLESS COPPER TUBES
« INDIVIDUAL FINS »
MAXIMUM EFFICIENCY

A PARTIAL LIST OF REFRIGERATORS IN WHICH BUSH CONDENSERS ARE USED

Absopure
Bryant
Calectro Frost
Champion
Chilrite
Copeland
Dairy Refrigeration
Electro-KOLD
Femcold
Fisher (Canada)
Frankenberg
Freezel
Frig-O-Matic
Ice Berg
Icelect
International
Kelvinator
Kulair
National
Parker
Universal Cooler
Warner
Wayne
Williams Ice-O-Matic
Zerozone

LISTED AS STANDARD BY
UNDERWRITERS LABORATORIES, INC.
CHICAGO

THE BUSH MFG. CO.
HARTFORD, CONN.

W. H. MARK HANNA
6-247 GENERAL MOTORS BLDG., DETROIT, MICH.

TRADE MARK DECISION IN FRIGIDAIRE'S FAVOR

THE Commissioner of Patents, Washington, D. C., in a decision rendered March 3, upheld Frigidaire Corporation's opposition to the registration of "Iced-Aire" for refrigerators by the McKee Refrigerator Company, Cobleskill, N. Y. The case was appealed by both parties from a decision of the acting examiner of interferences.

The decision, which was signed by M. J. Moore, assistant commissioner, follows:

Hearing:
Jan. 23, 1930
In the United States Patent Office

Frigidaire Corporation
v.
McKee Refrigerator Co.

Appeal from Examiner of Interferences

Opposition No. 9948 to registration of trade-mark of McKee Refrigerator Co. for refrigerators, application filed Mar. 2, 1929, Serial No. 280,185, published June 25, 1929.

Messrs. Spencer, Hardman & Fehr and Messrs. Byrnes, Townsend & Potter for Frigidaire Corporation.
Victor D. Borst and Charles R. Allen for McKee Refrigerator Co.

Both parties appeal from the decision of the acting examiner of interferences, the opposer, Frigidaire Corporation, on the ground that the examiner erred in dismissing its notice of opposition, and the applicant, McKee Refrigerator Co., on the ground that the examiner erred in raising the question of registrability of its mark under the Act of February 20, 1905.

The examiner, in his decision, held that since the notation Frigidaire is descriptive and is therefore not owned by the opposer, it is clear that the use of this notation will not support a claim to damage under the "confusion-in-trade" clause.

It is believed that the examiner erred in dismissing the opposition for the reasons stated by him. As pointed out by the opposer, the opposition was brought under Sec. 6 of the Act of February 20, 1905, which provides that:

> "Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefore," etc.

That it is not necessary, in order to sustain an opposition, that the opposer shall own the trade-mark, registered or not, before he can oppose the registration of the mark to another person, has been held in many decisions, both by this office and by the Court of Appeals of the District of Columbia. In this connection, reference may be made to the decision of the Court of Appeals of the District of Columbia in Broderick v. L. Mitchell & Co. (314 O. G. 4; 289 Fed. Rep. 618; 1923 C. D. 280), in which it was held:

> "Section 6 of the Trade-Mark Act as construed by this court in Arkell Safety Bag Company v. Safepack Mills (ante, 277; 314 O. G., 3), gives the right to anyone who believes that the mark of an applicant would damage him the right to oppose its registration. In order that he may maintain his opposition it is not necessary that he should have a registered mark, or one that is registrable. (Atlas Underwear Co. v. B. V. D. Co., 261 O. G. 801; 1919 C. D. 190; 48 App. D. C. 425; McIlhenny Co. v. Trappey, 297 O. G. 800; 1922 C. D., 84; 51 App. D. C. 216; 277 Fed. Rep., 615). If the mark of the applicant is so nearly like his as to be likely to lead intending purchasers to believe that the goods of the applicant were put out by the opposer, and to buy them on that assumption, thereby damaging the latter, the statute affords him a right to object to the applicant's mark being registered. It may be that the opposer is not entitled to the exclusive use of his mark. None the less he has the right to resist the applicant's attempt to appropriate to himself its exclusive use where, as here, the use of the two marks would probably deceive."

The opposer contents that it is the owner of the mark Frigidaire and that the applicant's mark, ICED-AIRE so closely resembles its mark as to be likely to cause confusion or mistake in the mind of the public or to deceive purchasers, and that, for this reason, it would suffer damage by the registration of the applicant's mark.

A comparison of the two marks shows that they both have the same ending and the same suggestive meaning, namely, that the air is in a cold state. While the word Iced and the word Frigid do not look alike, yet it is believed that, since they convey the same meaning, their concurrent use on refrigerators would be likely to cause confusion or mistake in the mind of the public as to the origin or ownership of the refrigerators to which the marks are appropriated.

As to the holding of the examiner to the effect that the applicant's mark is descriptive of refrigerators or of the character or quality thereof, it is believed that the examiner did not exceed his authority, Sec. 7 of said act providing that the Commissioner may refuse to register a mark against the registration of which objection is filed.

It is believed that the decision of the examiner, holding the applicant's mark to be not registrable for the reasons stated, is without reversible error. The mark ICED-AIRE, when applied to refrigerators, would convey no other meaning than that the air is rendered cold by the application of ice, and, if the applicant's refrigerator does not operate on this principle, then the mark is deceptive, and, in either case, should not be registered.

The decision of the examiner in dismissing the notice of opposition is reversed, but it is affirmed as to its holding that the applicant's mark, ICED-AIRE, is not registrable under the Act of February 20, 1905.

(Sgd.) M. J. MOORE,
Assistant Commissioner.

Feb. 15, 1930.

ELECTROLUX GOING STRONG IN BIRMINGHAM

Birmingham, Ala.—March Electrolux sales by the Birmingham Gas Co. reached a total of 87 machines, A. H. Ayres, manager of the refrigeration department, reports. Three apartments, the Nelwright Court, 14 units, Elmhart apartments, 11 units and the Erville apartments, 10 units, were equipped during the month with Electrolux refrigeration.

Mr. Ayres has set the April goal over the hundred unit mark. Since May 27, 1929, this company has sold in the Birmingham district over 700 Electrolux gas refrigerators. Thirty-one apartment jobs have been closed during this period.

SUPER AUTOMATIC OIL HEATOR

Exclusive

Only SUPER Oil Heator distributors are able to use the SUPER Ceramic method of installing oil burners. This new method insures a new standard of silence and efficiency.

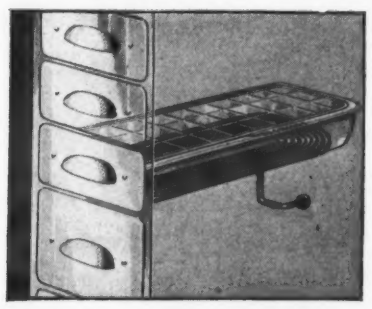
THE SUPER OIL HEATOR CO.
PAWTUCKET, RHODE ISLAND

World's Fastest Freezing Ice in 80 minutes

Here is the Proof of Kelvinator's Super-Fast Freezing

Note the Freezing Time in Domestic Cabinet Kelvinators Under Every Climate and Condition of Water Supply, in Every State in Union.

City	*Freezing Time*
Birmingham, Ala.	70 min.
Little Rock, Ark.	59 min.
Phoenix, Ariz.	74 min.
Los Angeles, Cal.	65 min.
New Haven, Conn.	80 min.
Denver, Colo.	69 min.
Ashboro, N. C.	56 min.
Columbia, S. C.	62 min.
Washington, D. C.	80 min.
Fargo, N. D.	77 min.
Huron, S. D.	86 min.
Wilmington, Del.	65 min.
Jacksonville, Fla.	70 min.
Atlanta, Ga.	90 min.
Boise, Ida.	87 min.
Indianapolis, Ind.	70 min.
Washington, Ill.	68 min.
Cedar Rapids, Ia.	85 min.
Wichita, Kan.	75 min.
Louisville, Ky.	80 min.
New Orleans, La.	90 min.
Billings, Mont.	90 min.
Minneapolis, Minn.	155 min.
Hagerstown, Md.	80 min.
Detroit, Mich.	65 min.
Portland, Me.	75 min.
Clarksdale, Miss.	75 min.
Boston, Mass.	89 min.
Kansas City, Mo.	88 min.
New York City	60 min.
Bridgeton, N. J.	45 min.
Manchester, N. H.	86 min.
Albuquerque, N. M.	90 min.
Omaha, Neb.	83 min.
Las Vegas, Nev.	75 min.
Akron, Ohio	69 min.
Oklahoma City, Okla.	65 min.
Portland, Ore.	80 min.
Pittsburgh, Penn.	70 min.
Providence, R. I.	79 min.
Beaumont, Tex.	75 min.
Knoxville, Tenn.	70 min.
Provo, Utah	120 min.
Burlington, Vt.	120 min.
Charlottesville, Va.	90 min.
Charleston, W. Va.	79 min.
Seattle, Wash.	88 min.
Milwaukee, Wis.	91 min.
Casper, Wyo.	75 min.



Here's the reason Kelvinator gives far faster freezing. Note the spiral coil of Iso-Thermic Tubes beneath lowest ice compartment. This is, in effect, a Cold Plate, in which intense cold is concentrated. Ice cubes and desserts are frozen in record time.

Proved in Nation-Wide Tests
Covering Every State in the Union

IN a country-wide test of standard domestic model Kelvinators, conducted on March 18th in every state in the Union, including the District of Columbia, this amazing fact was brought out: *Kelvinator gives the world's fastest freezing!* The average time necessary to produce solidly frozen ice cubes was *80 minutes.* Even the outside figure—155 minutes—is far faster than any other automatic freezing known to domestic electric refrigeration.

Consider what this means in relation to the present-day demand for faster freezing! Consider what Kelvinator offers in its other exclusive features: A Cold Storage Compartment—for keeping frozen meats, fish, game, fruits, etc. Abundant ice cube capacity—de luxe models give *more* ice, size for size, than any other domestic refrigerator. Unvarying 40 to 50 degree cold for scientific preservation of foods.

And remember that every one of Kelvinator's four refrigeration services is *wholly automatic.* No manual control or regulation is required—not even for super-fast freezing!

In the light of these facts, is it any wonder that Kelvinator sales are showing a greater percentage of increase than any other electric refrigerator? Is it any wonder that more Kelvinator shipments were made during the month of March than in any other single month in Kelvinator's 16 years of manufacture?

Dealers seeking additional facts about today's greatest refrigeration franchise are invited to address the factory. Complete details of the new Super-Automatic Kelvinators, in three price ranges, will be gladly mailed upon request.

KELVINATOR

THE ELECTRIC REFRIGERATOR

KELVINATOR SALES CORPORATION, DETROIT, MICH.

KELVINATOR OF CANADA, LIMITED, LONDON, ONTARIO

KELVINATOR LIMITED, LONDON, ENGLAND

WIDE RANGE OF MODELS IN ELECTRO-KOLD LINE

Spokane, Wash.—The line of household, commercial and apartment models as now manufactured by Electro-Kold Corporation for 1930 is now complete, and embodies some 29 models of household and apartment sizes, 14 models of compressor units, 52 models of chilling units and 39 units of other types for commercial installations.

The household models feature humidifiers for keeping fresh vegetables and fruits, water containers for cooling drinks without the necessity of placing ice cubes in the water, and electric lighting of the interior of the refrigerator.

Besides the Pacific coast, its natural selling territory, the Electro-Kold corporation is operating throughout South and Central America, Australia, East Indies, New Zealand, Japan and Hawaii.

The demand in 1930 for Electro-Kold products is running in excess of 1929 with substantial unfilled orders on hand. The program in 1930 calls for a considerable increase in production over 1929.

The Electro-Kold factory operates its own retail department in Spokane and Seattle, where was sold a dollar volume of Electro-Kold products in 1929 totaling $332,000. As an indication of the sound credit conditions prevailing on the Pacific Coast but 19 machines out of this total volume were repossessed on account of non-payment. The balance of the Electro-Kold distribution is through regular recognized dealer organizations purchasing all their products from the factory at Spokane.

Refrigerator Business is Prosperous in Canada

CARLOAD OF KELVINATORS
for SOUTHERN CANADA POWER CO. MONTREAL
CARLOAD OF KELVINATORS
for SOUTHERN CANADA POWER CO. MONTREAL

TWO carloads of Kelvinators which were shipped by Kelvinator of Canada, Limited, London, Ont., to Southern Canada Power Company, Montreal, Quebec, Kelvinator distributors.

T. H. Yull, director of McConnell & Fergusson, Limited, advertising agency; D. T. Kelley, advertising department, Kelvinator of Canada; F. S. McNeal, general manager; F. A. M. Dawson, and N. B. Graham, chief shipper, were on hand to see the large shipment get under way.

REPRESENTING WAGNER ON THE CONTINENT

London, England—Wolf & Morgan, Ltd., European distributors for Wagner motors, are carrying extensive stocks of refrigeration motors to meet demands on the continent. All types and sizes of motors, parts and accessories are on hand, and it is possible to supply promptly from London.

NEW HAVEN ALDERMEN ARE PLANNING NEW CODE

New Haven, Conn.—Installation of all types of refrigeration equipment in this city will be controlled by the municipality under the terms of a proposed ordinance which is expected to be passed at an early meeting of the board of aldermen. The proposed code will regulate the installation of all refrigerating equipment including household and commercial as well as the large ice manufacturing and cold storage plants.

The code was worked out on the recommendation of Fire Marshal M. J. Fleming and the board of fire underwriters. It will replace an ordinance governing installations, which has been termed inadequate. The matter was brought to a head by a disastrous explosion at a local store fire in which one fireman was killed by ammonia fumes. The proposed law, it is understood, states there must be upon all ammonia plants an outside control by which the flow of ammonia can be stopped from the outside so that firemen will not be compelled to go into the plant itself.

In the preliminary work on drawing up the code, a close inspection of all refrigerating and cooling plants in the city was made. Co-operation of engineers for leading refrigeration equipment manufacturers, was secured in the work. New Haven refrigerator dealers are reported to be in favor of the ordinance, as it will establish uniform installation methods. G. R. Mance, president and treasurer of the Kelvinator Refrigerating Company, 60 Orange street, says, "it will be good for everybody involved," explaining that the safety element will be strengthened and public confidence increased.

FRICK TAKES NEW OFFICES IN NEW YORK CITY

New York, N. Y.—District offices and Eastern Division offices of Frick Company, Waynesboro, Pa., have been moved from 39 Cortlandt Street, where they have been continuously located for more than 30 years, to 370 Lexington Ave., New York City.

Company officials state that this move is dictated by the continued growth of the business, as well as a desire to give friends and patrons the best possible service.

The new address, in addition to being very close to Grand Central Station, is adjacent the Subway Station at 42nd and Lexington, from which all points in Greater New York are easily reached. The Frick offices in the 27-story Lexington Avenue Building will occupy rooms 612 and 613.

J. A. Mikesell, district manager, and his assistants, J. T. Murphy and M. B. Weinberg, comprise the present staff of the district office. L. Howard Jenks, eastern division manager, will also make his headquarters here.

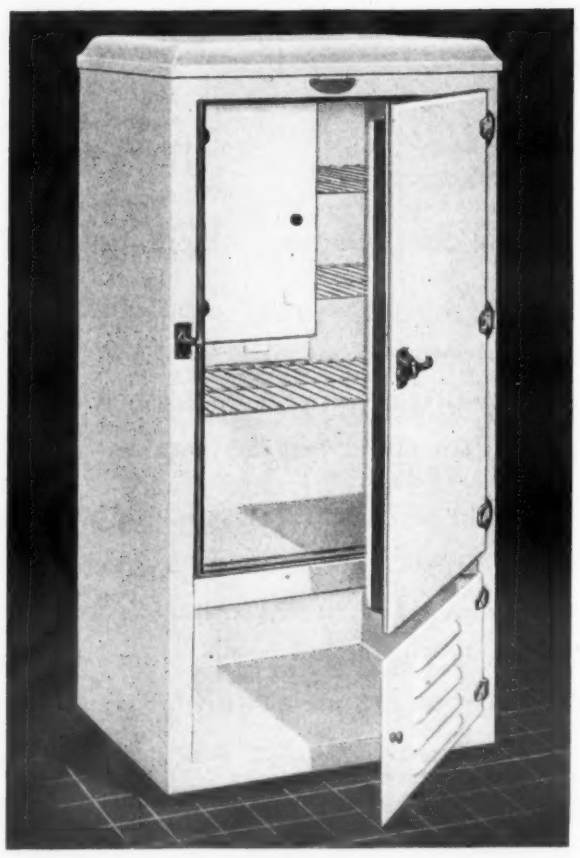
WAGGONER NOW VISITING COPELAND DEALERS

Seattle, Wash.—Dealer organization and co-ordination is the new field for R. B. Waggoner, former sales manager of the commercial division of Harper-Meggee, distributors for Copeland, in Seattle. Mr. Waggoner will cover the territory spotted with dealers in the Northwest states.

Two apartment buildings in Seattle, the Montrose, on Densmore Avenue, and the Metcalf at 1628 41st Avenue, N., have recently been equipped with Copeland refrigeration.

The new head of the commercial department of the Harper-Meggee organization, Copeland distributors of Seattle, is D. A. Lane, sales manager, who has succeeded R. B. Waggoner.

V and DOUBLE V



MODEL LP 5

$145.00

Ready to plug in the socket.

SPECIFICATIONS

Total inside capacity 5.6 cu. ft. Porcelain Lined. Lacquer Exterior.

the merits of a proven product at a price that shows a profit.

Diligence and economy in manufacturing means that BRYANT users are BRYANT Boosters.

Consistent in price from the smallest to the largest size, BRYANT dealers meet competition with a product that stays sold.

A compressor incomparably quiet with drop forged steel shaft bellows type seal and Swedish spring steel wafer valves, a pan type evaporator with aluminum trays and porcelain lined cabinets leaves no stone unturned for quality.

Economy in manufacture and the fact that every BRYANT gives the same quiet refrigeration year after year explains this matchless

QUALITY *and* PRICE

Bryant Electric Refrigerator Corp.

New Milford, Penna.

The Filtrine Filter assures pure, clear water from your ELECTRIC Water Cooler

WRITE FOR DETAILS

FILTRINE MANUFACTURING COMPANY

49 LEXINGTON AVE. Brooklyn, N.Y.

Manufacturers of FILTERS & COOLERS of all sizes.

LONDON TERRACE TODAY. *Upon completion it will cost $25,000,000. And every one of its 1,669 kitchens will be Electrolux-equipped*

ELECTROLUX WINS AGAIN!

now chosen for World's Largest Apartment

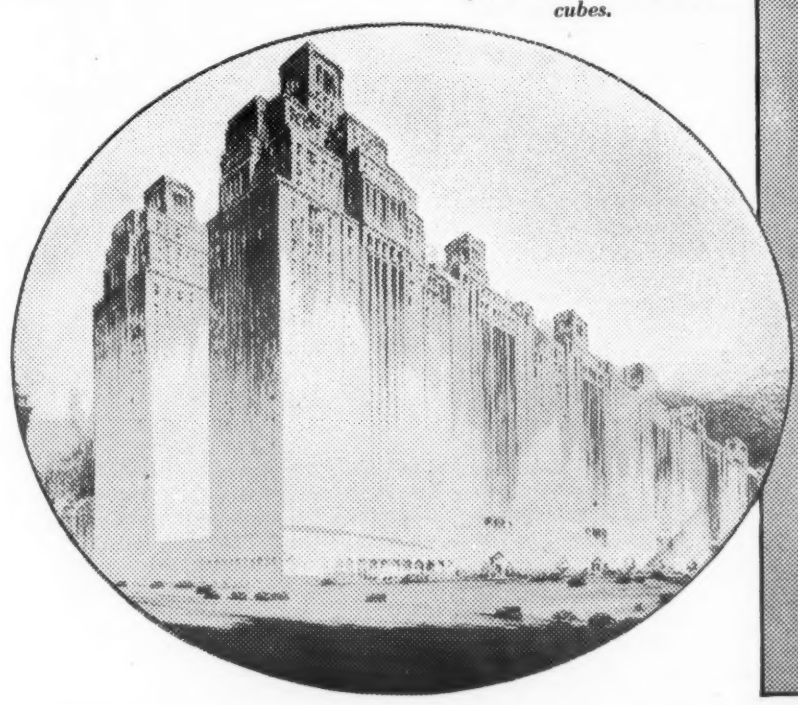
1,669 Electrolux Refrigerators in New York's $25,000,000 London Terrace development—*a record for one apartment dwelling*

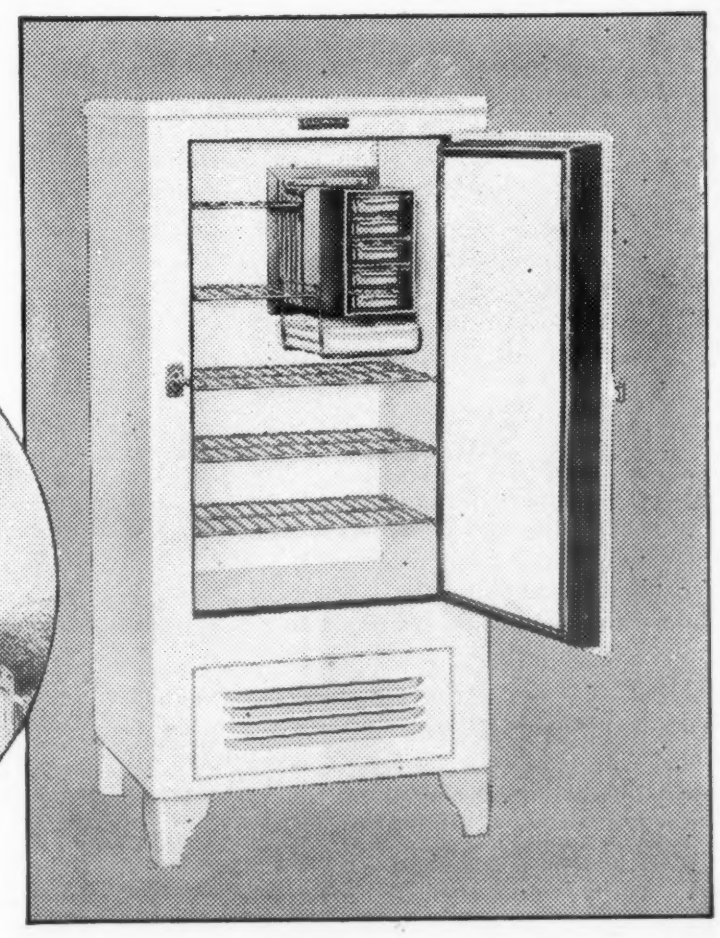
1,669 Electrolux units! And in *one* apartment dwelling! Never before has such a number been specified for *any* automatic refrigerator. Because, never before has there been such an apartment development as London Terrace. London Terrace—a city in itself. Covering 160,000 sq. ft. Consuming building materials enough to provide housing for 25,000 people. With a garden court as big as some city parks. A swimming pool, a gymnasium, restaurants—even a private police force. And in every one of the 1,669 spotless kitchens . . . Electrolux.

What other automatic refrigerator can offer such proof as this of its acceptance? What other make can show such rapid increase in sales in so short a time? In just a few years, Electrolux has achieved outstanding recognition from coast to coast. Metropolitan New York started the swing to Electrolux; other large cities were quick to follow the lead. Chicago fell in line immediately . . . with sales increases as great as 100% from month to month. Birmingham, too, and Philadelphia, Minneapolis, Portland (Ore.), St. Louis, Atlanta, were early in the triumphal swing to Electrolux. Now, across the country, Electrolux is the choice for the finest homes and apartments.

How are *your* sales stacking up? Are you making the most of the tremendous Electrolux advertising campaign that is covering the country? Are you getting down to the big job of selling Electrolux to every apartment that goes up in your community? You can do it. *Electrolux is the choice of the hour . . . and of the year!* A few desirable franchises are still available. But you must act immediately. For information, write, wire or telephone Electrolux Refrigerator Sales, Inc., Evansville, Ind.

Below—*London Terrace as it will appear upon completion—a small city in itself.* At right—*The Hostess Model Electrolux. Has 5 cubic feet of food space, makes 45 large ice cubes.*





ELECTROLUX

THE *Gas* REFRIGERATOR

A tiny gas flame takes the place of all moving parts

ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry

Published Every Two Weeks by

BUSINESS NEWS PUBLISHING CO.

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Fair and Square

ELSEWHERE on this page is a letter from a reader, which begins on a note of casual and detached amusement, and ends with a gloomy prophecy of dire disaster. In between it discusses a number of points in a manner that seems to warrant a prompt reply.

The letter talks at length of Dr. Midgley's paper on a new refrigerant, which was read before the chemists in Atlanta recently and duly reported in the April 9 issue of the NEWS. The writer of the letter, John E. Starr, is well known as one of the pioneers in the refrigeration industry. He takes Dr. Midgley, and inferentially the NEWS, to task for failing to state plainly that the new refrigerant can be used in small domestic refrigerators and multiple installations. Toward the end he asks semi-rhetorically, "Why not come out fair and square and admit that a non-toxic, non-flammable refrigerant is a necessity and a boon to the small refrigerating machine industry?"

It is that call for a "fair and square" assertion that makes it advisable for the NEWS to answer Mr. Starr's letter in these columns. A question in that form is usually taken as impugning the motives of the person to whom it is put. In printing the article from Atlanta the NEWS intended to give a complete picture of the situation and assumed that Dr. Midgley has told all he had to tell. After all, is Dr. Midgley under any special obligation at this time, to promise anything more for his new refrigerant than what he feels reasonably sure that it will do? Is he not entitled to more time for experiment and study if he so desires before making further statements.

But, beyond that, Mr. Starr's letter makes it seem as though the NEWS has not given its readers the whole story. And if that is the case, the NEWS will welcome any additional information that he may have on the subject under discussion. If Mr. Starr knows that the new refrigerant can be successfully used in multiple and small domestic installations, the NEWS will welcome his information. Also, if he has discovered a unanimity of opinion among the best minds of the industry, on so vital a question, the NEWS will be more than glad to hear about it, for its experience has been that "our leading refrigerating engineers" are not in the habit of agreeing about anything, unless it be an invitation to dinner or some other such harmless subject.

All the NEWS wants to give to its readers is information. It welcomes any further contribution which Mr. Starr, or any other informed person, may make in regard to Dr. Midgley's discovery, which may prove to be such a boon to the industry.

◆ ◆ ◆

Southern Hospitality

AN industry which is going along so well as the refrigeration industry is at present develops plenty of problems by its mere momentum. Down in Atlanta on May 7, 8 and 9, the American Society of Refrigerating Engineers is going to discuss some of those problems. The program of the three-day meeting is printed on another page.

Of course every man who ought to go to Atlanta cannot be there. The fact that the refrigerator business is so good, will of itself keep many at home on the job. But every man who can go, should go. A wide range of subjects will be discussed, there will be plenty to see and do in the hours when there are no business sessions, and the South has long been noted for its hospitality.

In its display posters, the A. S. R. E. prints the following sentence prominently: "The Council urges friends of the Society to share in the welcome by its Southern members for the first A. S. R. E. convention in the new industrial South." In other words the man who is not a member of the Society will be just as welcome as the man who is. That's fair enough, and it is an invitation that will be appreciated and accepted by many men identified with the industry.

The Third Refrigerated Food Section

is a part of this issue of

ELECTRIC REFRIGERATION NEWS

The contents of the Refrigerated Food section are of interest not only to the men engaged in the production of frozen food and equipment for handling it, but also to the retailers who deal directly with the consumer. Copies of the Refrigerated Food section go to retailers, to chain store executives and others active in the marketing of food products.

Additional copies of the Refrigerated Food section may be obtained at a cost of $10 per hundred—10 cents per copy.

Co-operating With Copeland

WHEN the Providence Copeland Company opened its new showroom at 159 Broad St., Providence, Rhode Island, ice cream and other delicious desserts were distributed to visitors. In the picture here, Miss Genevieve McGrath, secretary of the company, is offering a tasty bit of ice cream which has been stored in the Cold Hold of the Copeland D-9. Reports from Ayers-Lyon Corp., distributors, indicate that a large number of guests on the opening day took advantage of the New England hospitality and enjoyed the frozen desserts.

PROFITS FOR RADIO AND REFRIGERATION DEALERS

WELSBACH COMPANY
Gloucester City, New Jersey
April 15th, 1930.

ELECTRIC REFRIGERATION NEWS,
Detroit, Mich.

Perhaps you would be interested in knowing our slant on the desirability of radio distributors as refrigeration franchise holders.

There is no reason why a radio jobber, most in mind, seem to have classified refrigeration more or less as a summer side line. I prefer to look at it from the distributor's angle, but in another light, and I think you will agree with me. This type of operation is, by nature and training, a wholesale specialty merchandising group, selling through dealers and sometimes direct to the householding consuming public. For that reason, they are just as able outlets on refrigeration by and large as radio, and there is no reason why they should not handle both lines properly all year round.

Refrigeration, perhaps more than radio, has made strides toward overcoming the seasonal slump—this particularly because of the educational measures taken to teach the public the need of all-year-round refrigeration, and the fact that manufacturers' complete lines, like ours, embody commercial systems, which sell almost as readily in November as they do in May.

There is no reason why a radio dealer, although originally set up to handle radio, cannot merchandise both radio and refrigeration, not only half a year for one and six months for the other basis, but both—twelve months.

The announcement of the advent of two large radio producers into the refrigeration field has already caused more than a ripple of interest within the trade. Just as soon as one of these companies puts a cabinet on the market, this ripple is likely to become a wave.

It seems, from inquiries recently received, that the distributors of radios manufactured by those not also producing refrigeration, are going to find themselves in a tight place with their dealers and jealous because they themselves are not reaping the increased profits of refrigeration.

Yes, we have tangible evidence of this. We recently signed a large account in Baltimore—a radio distributor—and an account in the West, of similar nature, has been on our books now for almost three years.

As to how—the distributor merely employs the same wholesale specialty selling methods in moving refrigeration (I am speaking now of domestic self-contained cabinets only) as he does in selling radios, and, on commercial, organizes a special department, generally concentrating his effort in his headquarters city.

Service, although not burdensome, is of a more specialized nature than on radios and this is accomplished by spotting key servicing dealers to serve non-servicing dealers throughout the territory—no outlet being further than twenty-five miles from a service man.

Welsbach Company.
R. R. THOMPSON,
Refrigeration Sales Manager,

MIDLEY'S REFRIGERANT SUBJECT OF DISCUSSION

STARR ENGINEERING CO.
John E. Starr, Pres't.
West Street Building, 90 West Street
New York City
April 15th, 1930.

To the Editor of ELECTRIC REFRIGERATION NEWS:

The article on a new non-toxic refrigerant, appearing in your issue of April 9th, is the cause of much amusement in refrigerating circles. From the tone of the explanation, given by the discoverers, Dr. Midgley, of the General Motors Co.; Dr. Schwartz, of Ghent, and Dr. Henne, one would think that the importance of this discovery lay in its adaptability to mine cooling, cold storage warehouses, ice plants and other extensive refrigerating operations. Whereas, except for mine cooling, it is of no importance. These large operations are occupational risks, where the hazard is confined to a very small percentage of the population, and where the hazard has been so greatly reduced as to be almost negligible, and is a hazard only met with by a few men fully alive to the danger. Dr. Midgley knows, what every refrigerating engineer knows, that accidents to person, property and life are almost daily occurrences, where refrigerating machines are used, that have a sufficient charge of refrigerant to kill or injure, and that the best reason for seeking a non-toxic refrigerant is the hope of avoiding this trouble.

The real object of the attempt to obtain a non-toxic gas is to secure a gas that will, no matter what happens, be safe for you and your family, your wife, sons, daughters and infants, who are in apartment houses and homes, which cannot have the protection afforded by a large refrigerating operation, and where people are subjected to a hazard, they know nothing about, and could not defend themselves, if they did know.

Dr. Midgley, in your article, is correctly quoted and it is very commendable for him to say: "It is essential that a medium for mechanical refrigeration be stable, non-corrosive and possess suitable vapor characteristics," and that "heretofore no substance has been adapted for refrigeration, combining non-toxicity and non-inflammability with suitable engineering properties." He proceeds to demonstrate that he has discovered a fluid that will be non-toxic when breathed, so demonstrating that he has discovered a fluid that will be safe to use in a multiple system, where the fluid is carried by a system of pipes throughout a dwelling or an apartment house. This is the true significance of the discovery, and why camouflage it by implying that it will only be of advantage in large refrigerating operations.

The position that our most prominent refrigerating engineers have taken—that no fluid now used should be used in the multiple system, no matter what the supposed "safeguards" may be, is fully sustained by the admission of Dr. Midgley et al. in seeking a non-toxic fluid. They even substantiate the position of many, that no toxic gas should be used in any machine in quantities sufficient to kill.

Why not come out fair and square and admit that a non-toxic, non-flammable refrigerant is a necessity and a boon to the small machine refrigerating industry? The small machine and the multiple system needs only this to make it a great and sound industry, and it is useless to withhold the facts from the public.

The great public are slow to learn, but facts are not forever to be withheld and when fully appreciated there will be a revulsion that will ruin the industry for years to come.

Respectfully,
JOHN E. STARR.

PERSONAL APPEAL USED ON SERVEL DIRECT MAIL

PRINTED Personalization, a comparatively new method of mail advertising, has been used with considerable success in some industries, and Servel is now taking advantage of it for automatic refrigeration.

Its difference from ordinary direct advertising material lies in the actual printing of the prospect's name in the pieces which she receives. For instance, in the domestic series pictured on this page, where you see the name of Mrs. Charles Ridgeway, the recipient sees her own name printed on the truck, on the check book, on the society page and on the doorbell. The personalization, however, is not merely a matter of printing in a name. Each piece is designed so that the personalization means something.

In the first folder, the truck, backed up to the curb before the home, definitely suggests a Servel for that home. The second one, with the check book and shopping list, ties in the Servel with foods. The third—ease of entertaining with electric refrigeration equipment. And the fourth—the fact that the local Servel dealer is ready to call with complete information.

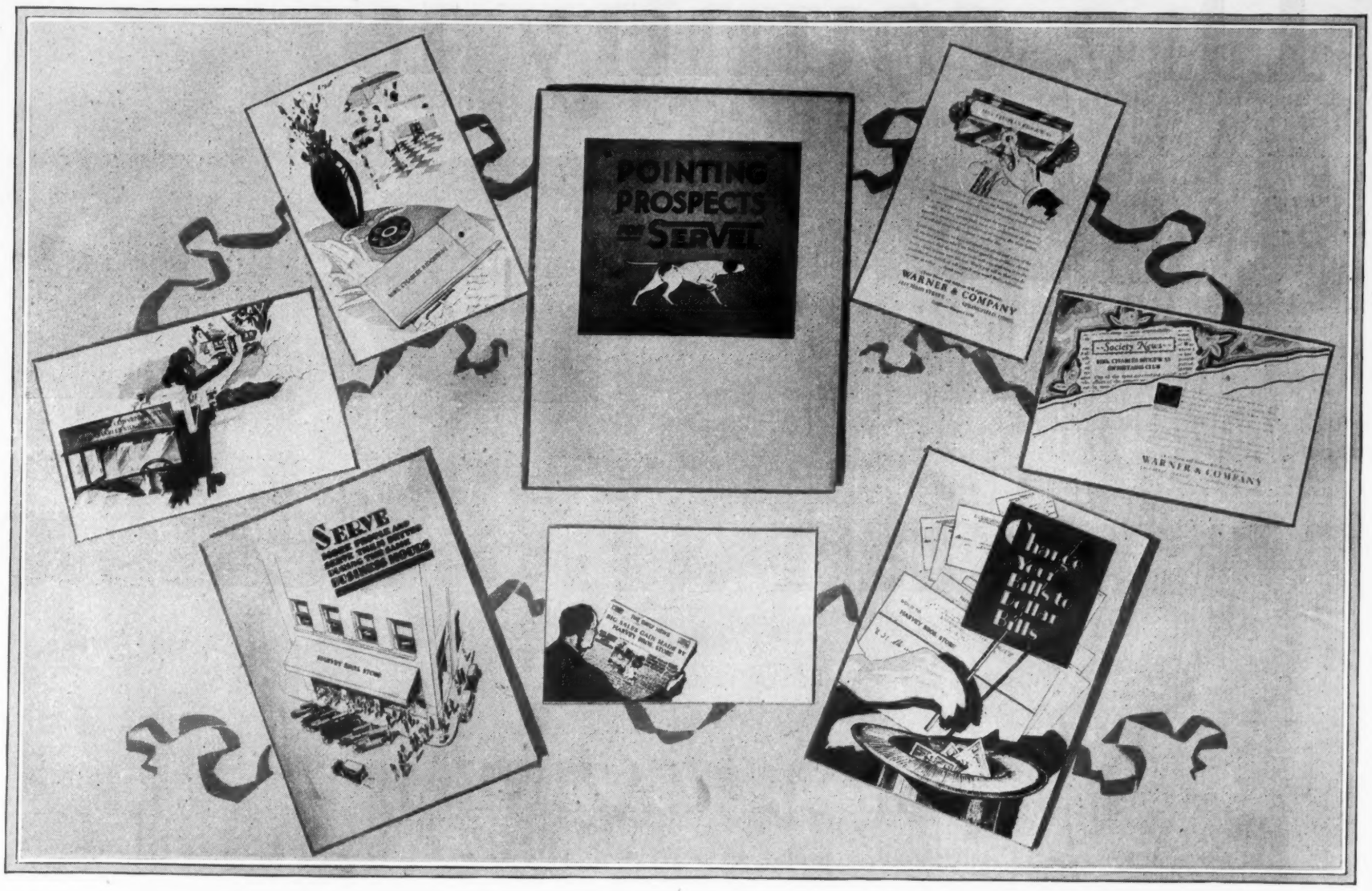
The same thoughts are carried out in the commercial campaign in the lower part of the picture. Here we see the meat man, for instance, looking at a newspaper headline which tells of his greatly increased business. Exaggerated a bit, perhaps, but effective. Then a store such as he would like to own, with his name on it. And then, the magician's wand, "Changing Bills to Dollar Bills"—demonstrating the economy of Servel electric refrigeration.

Both of these campaigns are furnished to dealers under Servel's co-operative advertising plan, the dealer being charged only for the postage. The Servel advertising department handles all the operation, the dealer being called upon to furnish only the list of names. The campaigns are presented in a complete portfolio, giving full instructions as to its use, etc.

Before offering this material, Servel used some of the same type to develop leads for its own organization, for dealers and distributors. Four mailing pieces were used in this campaign.

The first piece, in the form of a blotter, carries a "want-ad" for a line of electric refrigerators, signed by the name of the company to whom the campaign was sent.

Prospect Sees Her Own Name on Printed Folder



Following this was the booklet, "Talking Points or Selling Points," also personalized and enclosing a reply card.

The third piece showed the prospect's name on a 24-sheet outdoor display, and the fourth folder, a newspaper headline telling about substantial business secured by the prospect.

The pronounced success of this campaign in securing live leads convinced the Servel Advertising Department that material of this nature for retail sales would be extremely successful.

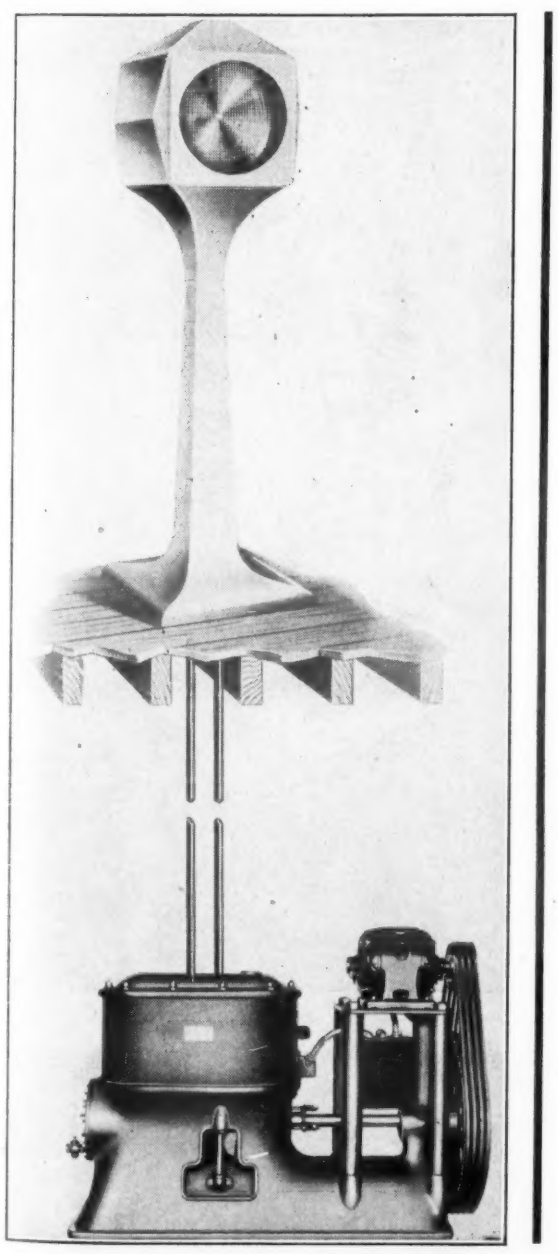
TO REPRESENT KELVINATOR IN JAPAN

Detroit, Mich.—Kelvinator Export Division announces the conclusion of negotiations with Messrs. Ryobi Denki Shokai, Limited, Tokyo, Japan, who will represent Kelvinator throughout the Japanese Empire. This organization is closely affiliated with the Mitsubishi group, one of the great families of Japan, and a powerful factor in finance, shipbuilding, manufacturing, mining, agriculture, fisheries, etc., in the Island Empire.

B. H. Morash, Kelvinator representative, through whom negotiations were made, will remain for some time in Japan, with John F. Stevens, Jr., the company's Far Eastern representative, assisting in the organization and sales promotion for the new distributor, whose sales activities cover the whole of Japan.

LOCKE JOINS BOGART IN SOUTH BEND

Toledo, Ohio—L. W. Locke has joined the organization of the H. B. Bogart Co., G. E. distributors, Mr. Locke will be manager of the commercial department of the Bogart company's branch distributing office in South Bend, Ind. Mr. Locke is well known in electric refrigeration circles.



Single unit pedestal type PEERLESS Cooling FAN. A one-ton cooling and de-humidifying installation.

AIR COOLING

•

CONSTANTLY pressing forward—with the courage to tread the uncharted paths of engineering—advancing—advancing fighting—advancing by developing—advancing by perfecting—building a reputation for fair dealing above all—a reputation for progressivness—a reputation for QUALITY and low "Cost of Use"—that is PEERLESS!

Entering the new field of Comfort Air Cooling with 17 years of ice machine experience as a foundation, old conceptions of air cooling were cast aside as being impractical for *average* use. For the first time refrigeration is applied direct to the space to be conditioned. The air is cooled and de-humidified in the one operation—and AIR COOLING is made available to the thousands of people who have demanded Air Cooling at a reasonable price. Bulky, expensive equipment has been eliminated. Simplicity of construction, installation, operation—again point the way to SUCCESS! Another broad field of use is opened to the ice machine dealer!

•

PEERLESS ICE MACHINE COMPANY

515 WEST THIRTY-FIFTH STREET - CHICAGO, U. S. A.

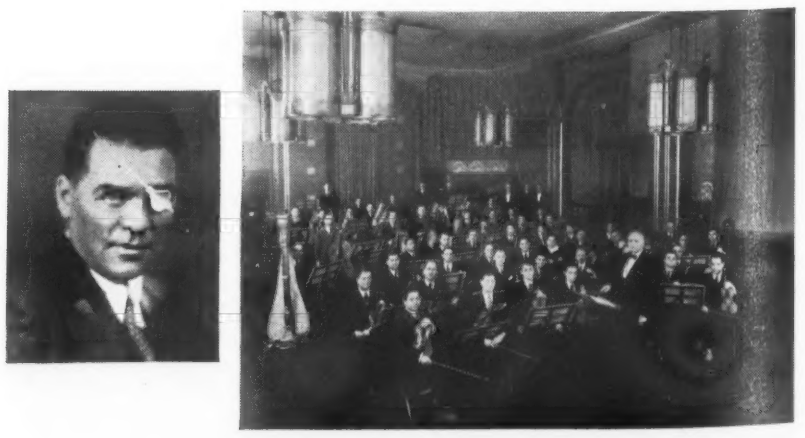
The country is DEL

with the sensational "A

It's in the MAGAZINES!

It's in the MAIL!

It's on the RADIO!



It's in the WINDOWS!

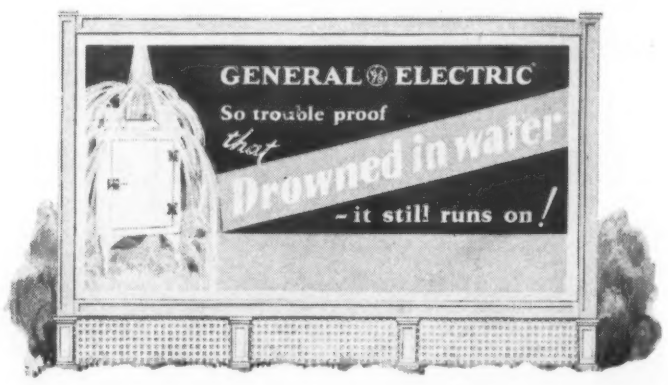
UGED

"Drowned-in-Water" Story

It's in the PAPERS!

DROWNED IN WATER YET IT RUNS
STRIKING... CONVINCING PROOF that DIRT, AIR or MOISTURE can't affect the SEALED IN STEEL GENERAL ELECTRIC REFRIGERATING UNIT
IT RUNS UNDER WATER
BECAUSE
SEALED IN STEEL
SUBMERGED
IT RUNS UNDER WATER
GENERAL ELECTRIC ALL-STEEL REFRIGERATOR
DEALER'S NAME AND ADDRESS

It's on the BILLBOARDS!



From coast to coast the country is being *flooded* with publicity on the dramatic "Drowned-in-Water" test of the General Electric Refrigerator. Each day the tide of sales is rising higher and faster. All records are being demolished. Plunge in. Swim with the current. Get on the crest of the wave. It's a *General Electric* year!

OF THE HUNDREDS OF THOUSANDS OF OWNERS *not* 1 HAS PAID A CENT FOR SERVICE

GENERAL ELECTRIC
ALL-STEEL REFRIGERATOR

ELECTRIC REFRIGERATION DEPARTMENT OF GENERAL ELECTRIC COMPANY, HANNA BUILDING, CLEVELAND, OHIO

Servicemen from Twelve States Complete Training in Servel School

Evansville, Ind.—Service men from 12 states attended the Servel service school conducted at the factory during the two weeks of April 7 to 19.

Those attending the school were: (Front row, left to right)—E. D. Bayley, Scranton distributors, Scranton, Pa.; F. C. Cook, Spurrier Lumber Co., Tulsa, Okla.; P. C. Anderson, Pattinson Electric & Supply Co., Hutchinson, Kans.; C. S. Burton, Columbus Music House, Columbus, Ind.; B. G. Brown, Spurrier Lumber Co., Oklahoma City, Okla.; S. R. Cooper, Servel Sales, Inc.

(Second Row)—H. D. McElroy, Anderson Radio & Electric Co., Mattoon, Ill.; G. E. Irwin, Pizitz, Birmingham, Ala.; D. L. Anderson, Anderson Radio & Elec. Co., Mattoon, Ill.; Frank Robinson, Buckner Radio Shop, Cedar Rapids, Iowa; Max B. Potter, Marshall-Love & Co., Bowling Green, Ky.

(Third Row)—V. J. Abels, John A. See Furniture Co., Bay City, Mich.; J. R. Pattinson, Pattinson Electric & Supply Co., Hutchinson, Kans.; Ross Baxter, Broome Distributing Co., Inc., Binghamton, N. Y.; R. S. Smart, Cross Music Store, Middleport, Ohio; E. W. Fenton, Fones Bros. Hdwe. Co., Little Rock, Ark.; D. W. Anderson, National Supply Corp., Cedar Rapids, Iowa; W. Cissell, Servel Sales, Inc., Evansville.

NORGE ON MOTOR CAR GETS MORE FRANCHISES

DIRECTOR E. E. McMULLEN of the Norge Corporation and Norge distributor for Missouri and adjacent states has struck a new high note in sales promotion.

In his specially built and equipped Cord Victoria, carrying a Norge "Sentinel" operated by batteries, he is sizing up for himself the caliber of the merchants throughout his territories who have applied to him for a dealer franchise. He is going direct to them with a sample of the product he wishes them to represent.

Mr. McMullen is making a spectacular success of his venture; "I had to put up with a considerable amount of kidding and criticism before I started on my tour," said Mr. McMullen, "but I find my hunch fully justified by results.

"The Cord car is still sufficiently a novelty in itself to attract attention, but equipped as it is with a new model Norge it keeps me busy answering questions and giving sales talks wherever I go.

"Then it enables me to review my large territory quickly and to size up the merchants in the towns I travel to. When I find the one I want, the kind of man whom I believe can push Norge successfully in his community, I can do more than show him a piece of trade paper advertising or a catalog. I can demonstrate the product itself with the freezing mechanism in operation, with food on the shelves and ice cubes in the trays.

"I don't talk Norge Rollator, defrosting switch, cold accelerator, ice cubes protected from food odors by a self-closing door and all the other modern features. I show him these things at first hand—show how they operate—answer his criticisms—build his enthusiasm to its highest pitch."

Major Howard E. Blood, president of the Norge Corporation also is enthusiastic about Mr. McMullen's venture. "I believe," he says, "that Mr. McMullen has hit upon a sound method for obtaining the right kind of dealer and doing it more quickly than by any other way. The idea is novel and it gets results."

MOTOR CAR HAS RIVALS FOR CUSTOMER'S DOLLAR

THE day of the automobile as a financial and social mark of the American family is passing. In a talk recently before the Detroit Adcraft Club, R. M. Rowland, advertising manager of the Chrysler Corporation, stated that the electric refrigerator, the oil burner, or even a repainted house, are items which now stand for family prosperity.

"Automobile manufacturers must find a way to re-establish the car as the first requirement in the family's budget," he said. "They have been taking the car for granted, and have permitted the public to come to them. Manufacturers of home appliances have gone to the people themselves, with the result that a new piece of equipment for the house often stands in the way of a second car."

KELVINATOR CAMPAIGN AT BINGHAMTON LAUNCHED

Binghamton, N. Y.—The Refrigeration Jubilee of the Associated Gas and Electric System is speeding on in the north, following big success in Florida.

Late in March there were two meetings, one at Binghamton, attended by 400, and the other held at Towanda, with 250 employees present. The factory was represented at both by District Manager R. I. Petrie and "Joe" Dohany, formerly of the advertising department and later a salesman at the Detroit branch.

The speakers at these meetings were C. R. Rudy, merchandise manager, who made a stirring talk on the Jubilee Campaign. A. E. Ward, general Jubilee manager, made an address on the Associated Gas and Electric System's Jubilee plans for the year. He made the statement that, in his tour over the various properties, he would address approximately 15,000 employees. Other speakers were Messrs. W. Goudie, vice-president and general manager, and Mr. Yentzen, assistant superintendent.

With the opening of the Refrigeration Jubilee on April 15 every employe of the Binghamton Division automatically became a member of the "Safety Pin Club." No invitation is required—no dues are collected. Every employe became a member. The Safety Pin is to be worn on the lapel of each man's coat and the women will wear theirs in an equally conspicuous place. The Safety Pin is the emblem of service during the Refrigeration Jubilee. Once this emblem is pinned on, the employe gives a "gentleman's promise" not to remove it until he or she has sold a Kelvinator. If he has not sold one by the close of the Jubilee, he may, of course, remove it. But no member of the regular sales force may remove his pin until he has sold the quota assigned him for the period of the Jubilee.

Those who make their first Kelvinator sale will receive an attractive pin furnished by the Kelvinator Corporation.

hear ye!

the same cry as of yore

"black steel sheets do not offer the rust-resisting qualities that are essential—and while it has been proven that zinc is the best protective coating for black steel sheets, paints, lacquers or enamels do not adhere satisfactorily to a galvanized sheet."

the term "galvanized" is applied to a zinc, or what is commonly called spelter, coated sheet. This coating contains certain elements that prevent the applied finishes from properly bonding.

referring to refrigerator *and* ice cream cabinets

where condensation is prevalent a ***rust-resisting spelter coated*** sheet metal to which the finish will ***securely bond*** is most practical.

Superior "Super-Metal" PATENTED PROCESS

for the finest cabinets

Super-Metal is made from a special analysis, copper content steel and coated with prime spelter and alloys. After the sheet is coated it is HEAT-TREATED which thoroughly amalgamates the coating with the base metal and destroys the elements that prevent the finishes from bonding.

Superior Galvannealed PATENTED PROCESS

Superior *Galvannealed*—While slightly lower priced this sheet has met the requirements of some of the best known manufacturers of refrigerating units and metal cabinets. It is a heat-treated sheet similar in many respects to Super-Metal. Both sheets can be furnished stretcher leveled. Sheets are ductile and resist flaking or peeling under the most difficult forming.

The Superior Sheet Steel Co.

Division of Continental Steel Corp.

Canton, Ohio

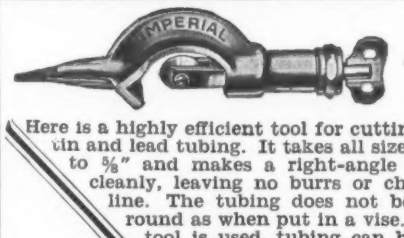
Manufacturers of Black, Galvanized, and Long-terne Sheets

Five Aids
To Better Installations

Imperial Refacing Tool

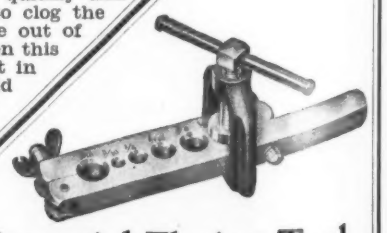
This new Imperial Tool insures against leaks caused by S. A. E. couplings that do not seat properly. In use, the coupling is inserted into the correct adapter, then a few turns of the five-fluted hardened steel refacer will produce a faultless seat of just the correct size and taper for an absolutely tight and leak-proof joint.

No. 100-F Refacing Tool with adapters for sizes ¼", 5/16", ⅜", 7/16" and ½". Per Set.....$3.75



IMPERIAL TUBE CUTTER

Here is a highly efficient tool for cutting copper, brass, block tin and lead tubing. It takes all sizes of tubing from ⅛" to ⅝" and makes a right-angle cut, quickly and cleanly, leaving no burrs or chips to clog the line. The tubing does not become out of round as when put in a vise. When this tool is used, tubing can be cut in half the time required by old methods and a far better job results. No. 94-F Tube Cutter, each $2.50



Brass Forgings

Accurately made to meet all the requirements of Iceless Refrigerator Manufacturers. Will not leak. Let us quote on your requirements.

Imperial Flaring Tool

The Imperial Flaring Tool gives the proper flare and taper to the tubing for making up joints. A perfect flare means a tight joint, and this tool does the work in the least time and with the utmost simplicity. No loose dies—no vise necessary.

No. 93-F takes tubing sizes 7/16", 3/16", 1/4", 5/16", 3/8", and 1/2", each.....$3.00

No. 95-F takes tubing sizes 1/4", 5/16", 3/8", 1/2" and 5/8", each.....$4.00

This tool is light in weight and most simple to use. It is merely slipped over the tubing and brought to rest at the place where the bend is to be made. Then both tube and coil are bent by hand to whatever form desired. Seven Tube Benders comprise a complete set.

No. 101-F Tube Bender Set for tubing sizes, ¼", 5/16", ⅜", 7/16", ½", Per Set.....$2.75

THE IMPERIAL BRASS MANUFACTURING CO.

565 SOUTH RACINE AVE. - - - CHICAGO, ILL.

CAPE COD'S LIVE WIRE CLUB INCREASES SALES

By Carroll E. Pellissier

DURING 1929 Harry B. Ivers, general manager of the Southeastern Massachusetts Power & Electric Company, established a new high record of General Electric refrigerator sales that is going to stand for some time or until, as he says, he breaks it himself in 1930. During an eleven months' period he won four first prizes in General Electric refrigerator sales contests. Exactly 53.06% of his total electrical appliance sales during this eleven months' period were G. E. refrigerators. His headquarters are at Wareham and his territory is famous old Cape Cod.

The Cape Cod territory is decidedly rural. Not only that, but it also is a summer resort section, the company having less than 4,000 year-round customers. The fact that the territory involved is mostly rural is not an asset to any company retailing electric refrigeration.

When Mr. Ivers took charge of this company in the latter part of 1928 he was confronted with some serious handicaps. Sales were showing a steady drop. The personnel of the company was far below its regular efficiency.

Building an Organization

The first move that Mr. Ivers made was to capture the respect and good-will of his employees. He surrounded himself with an organization that believed in him and in the new policies he established. Having won the respect and cooperation of employees, he set about to serve the people in his territory. He showed them the company was willing to meet them more than half way. He saw to it that they got real service. Courtesy displaced the "hard-boiled" attitude. He convinced them that the company desired only a fair profit and was willing to give them the benefit of everything in excess of that. To prove this he has reduced the electric rates three times during his fifteen months there.

Mr. Ivers believes that one can often get some real workable ideas from the experiences of men in other kinds of business. He had heard a well-known Boston retail merchant state that the whole secret of a successful retail organization was to give the public what they want—when they want it.

In the electrical business an electric flat iron month, an electric refrigeration month, and what not often are scheduled. During these stated months the whole sales forces of various organizations are supposed to make a drive to sell that particular item during that month. It is a case of using "high pressure" salesmanship, and too often meant selling the housewife something she didn't particularly want at that particular time.

Mr. Ivers formulated a plan that was just the opposite of all this. He is firm in the belief that national advertising had already educated the public to the merits of electric refrigeration. The newspaper advertisements, the radio broadcasts, the magazine advertisements, all are accessible to the people in this territory. The ground was already prepared.

More Space for Display

His first step was to arrange for greater display space, not only in Wareham, but in the other smaller community centers he serves. He hired the windows of country stores. In many cases one store served the whole community. He arranged attractive displays. His sales force on the road and in the stores have been instructed to eliminate all superlative descriptions, unnecessary mechanical explanations, and to stress the practical points of electric refrigeration. They explain the cost, the terms if desired, its advantages to the prospective customers, and in clear but simple style tell just how it works. The national advertising is allowed to cover all the other ground.

The next step revolves around that theory of finding out what the public wants and then giving it to them when they want it. To accomplish this, Mr. Ivers did not enlarge his sales force, nor did he advocate any more extensive operations on the part of the existing force. He used his full staff of employees. Working on the basis that all of his employees, from the office boy to the manager, should have the welfare and advancement of the company as one of their personal interests, he organized an employees' association known as the Live Wire Club. Meetings are held monthly at a local inn at which the company furnishes a dinner and entertainment. It gives Mr. Ivers an opportunity to address the employees en masse once a month. His subjects are usually connected with the how of selling and matters that promote the general efficiency of his staff.

This club is open to all employees and members of an employee's family are admitted as guest members without any voting rights. They elect their own officers and plan dances, entertainments, etc.

There is another function of the club that has a decided bearing on the successful merchandising of electric refrigeration. The employee member inquires of friends, relatives, neighbors, etc., just what type of electric appliance they need, desire or just plain like. He finds out when they are likely to be in the market for this item. This information is put on a "Go Get It" blank specially provided. The employee fills in the date, name, address of the prospect, the name of the appliance the prospect might be interested in, and when she or he would be interested in obtaining the article. This is handed to the sales department and the information passed on to one of the sales force. The salesman must make a written report on every prospect he visits, and this information is kept on file for future information, sale or no sale.

The employee is allowed a commission of 2½% if a sale is made on the appliance named within sixty days of date submitted. The sales manager has the power to extend this time if the case warrants it. If the employee brings in a written order, he receives a 5% commission.

To make this plan work, the full cooperation of the employee is necessary. When one considers that sales were trebled over the previous year, and that over 53% of the total appliance sales for 1929 were electric refrigerators, you can readily see how this plan works in this particular field. Naturally it is to the utility company's advantage to sell this type of appliance, for it increases the use of electricity and maintains that increase over a long period of years. In the case of Mr. Ivers he has increased the annual use of electricity to an average of 55.7 kilowatt-hours additional earning capacity per meter. He established a new record of $21.89 of appliance sales per meter in his territory.

There is another point to consider that is of vast importance. Over 68% of his total sales during this period were

Harry B. Ivers

cash or thirty days, 8% paid in twelve months, and 24% in eighteen months. This is a rural community and in a section of the country where the vast majority of the population are summer residents.

Large Displays Carry the Message of Proper Refrigeration in the Home

The Wareham showroom is well lighted and has plenty of room for a number of G. E. Refrigerators.

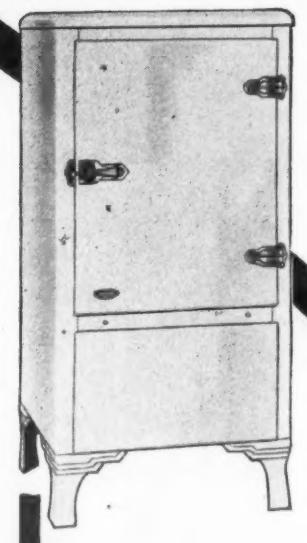
The leading refrigerator manufacturers are using our Double Seal and special gaskets made for their requirements. We will be glad to figure on your problem.

Specialists in refrigeration gasket.

The D.W. Bosley Company
906 Marquette Bldg.
Chicago, Ill.

BOSLEY'S Since 1869 The VERY BEST QUALITY SERVICE WEATHER STRIP

Swamped!



THE initial announcement to the trade of the 1930 line of Norge electric refrigerators brought a tremendous flood of inquiries from interested distributors and dealers.

And no wonder! For the first time in the history of electric refrigeration a world-famed manufacturer offers to the American Public, a product of highest quality and unsurpassed performance at prices which shatter hitherto accepted standards.

Not only this, Distributors and Dealers alike were quick to see the further tremendous advantages accruing to them in this new "package merchandise"—an electric refrigerator that eliminates the usual installation chores—that makes the installation service man unnecessary.

Installation simply consists of uncrating and attaching to nearest light socket—the entire Norge refrigerating system can be quickly removed and replaced by one man with one simple tool without moving the cabinet.

The fundamental reason for this altered standard of refrigeration values is the Norge Rollator—a startlingly simple cold-maker without the usual pistons and reciprocating parts. A little roller turns smoothly within a cylinder—that's all.

Simple to build—fewer parts and simpler parts—less to assemble—less to get out of order—less to service. Quiet and stays quiet—longer life—economical operation—extreme dependability.

Retail outlets will be limited in number—and first class in character. If seriously interested, write us for further information.

17 Norge Features

The Rollator—exclusive in Norge Refrigeration. Self-Closing Freezer Door—cubes protected from odors. Five-Speed ColdAccelerator. Down-Draft Flues—uniform cold air circulation. Defrosting Switch. Maximum Shelf Space. Non-Sticking Cube Trays. Chill Tray. One-piece Porcelain Lining. Modern Chrome Hardware — artistic, non-tarnishing. Spring Door Latch—closes tight without manipulation. Refrigeration System—removable as single unit. Tall Bottle Cut-out. Abundant Ice Cube Supply. Concealed Tubing—freedom from injury. Clean-Easy Edges to Food Compartment. Double-Gasketed Door—lowers operation costs.

NORGE
CORPORATION DETROIT
DIVISION OF BORG-WARNER

20 YEARS IN THE MANUFACTURE OF PRECISION MACHINERY—YEARS OF SATISFACTION IN THOUSANDS OF INSTALLATIONS THROUGHOUT THE WORLD—THE FINANCIAL AND ENGINEERING STRENGTH OF THE GREAT BORG-WARNER ORGANIZATION—ALL ASSURE NORGE SUPREMACY IN DESIGN, CONSTRUCTION AND VALUE.

NORGE ROLLATOR

FIRST QUARTER FIGURES FOR ALL G. E. PRODUCTS

Schnectady, N. Y.—Orders received by the General Electric Company for all classes of electrical products during the first quarter of 1930 amounted to $90,397,731, compared with $101,365,208 for the corresponding three months of last year, Gerard Swope, president of the company, announced recently.

As a result of the transfer of radio receiving set and tube business, outlined in the 1929 annual report, orders received, sales billed, and net income from sales in 1930 will not include radio sets and tubes, but income received will be included in "other income."

Sales billed for the first three months of 1930 amounted to $91,205,732.28, compared with $83,385,015.49 for the corresponding period last year.

Profit available for dividends on common stock for the first quarter of 1930 was $14,398,790.52, compared with $13,862,298.06 for the same three months last year.

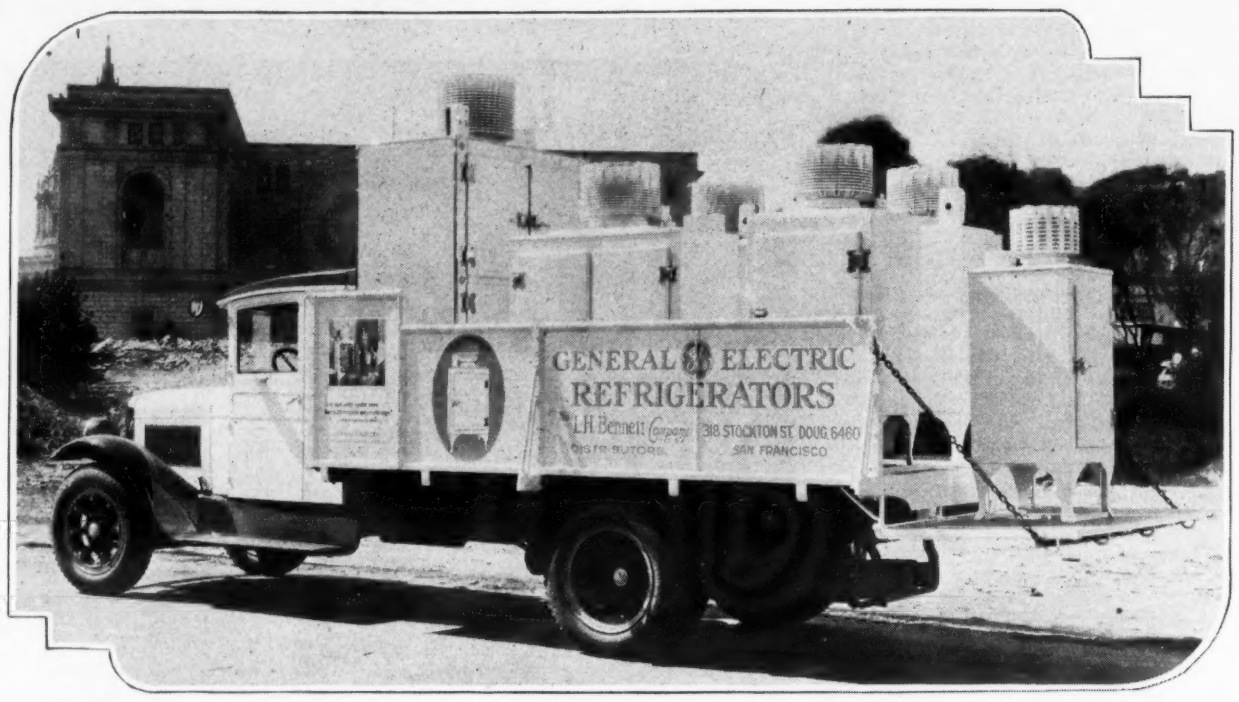
Profit available for common stock for the quarter is equivalent to 50 cents per share in 1930, compared with 48 cents per share in 1929, on the shares now outstanding.

KELVINATOR ENTERTAINS UTILITY SALESMEN

Pittsburgh, Pa. — The Kelvinator-Leonard Company was host to about twenty-five salesmen and store managers of the Duquesne Light Co. of Pittsburgh on March 27.

The guests were welcomed by General Manager Myles Ewing, and President Frank Natwick keynoted the purpose of the gathering, which was held with the object of getting together and becoming better acquainted, and exchanging ideas on selling, etc. Vance C. Woodcox, Kelvinator sales promotion manager, explained in detail the new line. R. I. Petrie discussed Kelvinator plans, policies, advertising, etc. T. Focht summed up the meeting from the salesman's standpoint.

Refrigeration by the Truckload



A CONSPICUOUSLY loaded truck formed part of the parade that opened the L. H. Bennett Company "Sealed in Steel" convention recently held in San Francisco. The truck loaded with white G. E. refrigerators moving up the main artery of the town attracted a good deal of attention.

OMAHA SHOP WILL SELL USED REFRIGERATORS

Omaha, Nebr.—The first shop for the sale of used electric refrigerators has found its way into Omaha. The location is Farnam and Twentieth streets and J. L. Ward, at one time a salesman for one of the companies represented in Omaha, is the manager of this shop. Previous to that Mr. Ward had spent five years in the radio business, making his own sets and often selling an extra good one for $225.

Mr. Ward has no trouble in disposing of all the reconditioned electric refrigerators he can obtain. He has secured several from parties leaving the city. A part of his stock also came from apartment house owners who changed from one kind to another. He succeeds in buying all equipment at a price that enables him to sell in the neighborhood of 60 per cent of the original cost. "People are eager to get one of these machines at that price," Mr. Ward said. "All know the original cost and also know the machines have not been in use long enough to be damaged greatly.

"How do I obtain my trade?"

"By using small space in the daily papers, also through the kindness of the dealers selling the machine originally. When salesmen of companies selling the new refrigerators become convinced they cannot sell a prospect because of price, then that prospect is sent to me. That makes it all easy for me. My trouble is in getting enough of the machines to supply the demand. Of course, I realize dealers will not long sanction me as a friend. Yet there is the possibility that this method will prove the best for disposing of reconditioned machines. It is now well known that it is better for auto dealers to have a separate organization for disposing of used cars. This may prove trus as regards used electric refrigerators. I believe it will."

The first two months in business Mr. Ward disposed of 25 of the refrigerators. He has found that radios are very good to handle in connection with refrigerators. He also carries a line of the smaller electric appliances for the home.

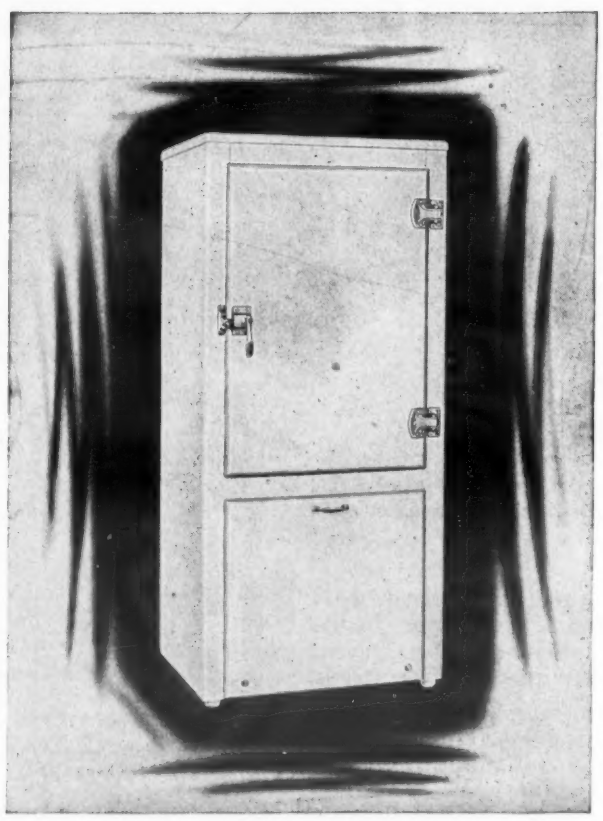
COLE BROTHERS PURCHASE MONTGOMERY FIRM

Montgomery, Ala.—The purchase of the Porter-Roberts Refrigerating Company by C. E. and C. W. Cole was announced here recently. Simultaneously it was announced that in the future the company would be known as the Radio and Refrigeration Company. The company, which is located at 206 Montgomery Street, handles Electrolux and Servel.

WILL REPRESENT HOWE IN DES MOINES

Des Moines, Iowa—The Refrigerating Specialty Co., 2732 College Avenue, has been appointed distributor for the Howe ice machine. The concern will maintain a service department, servicing all makes of ammonia and methyl chloride machines.

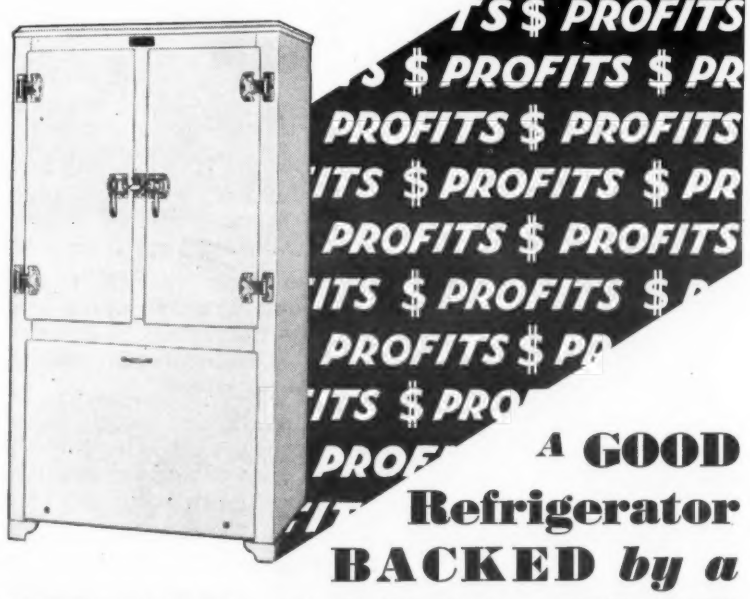
Meet the Demand *with* Universal Coolers



THE coming season, with its certain increase in sales, will be highly profitable to dealers who are handling this new LP-H 40 Universal Cooler. Buyers everywhere are enthusiastic over its pleasing lines—porcelain interior—satin finish hardware—well planned shelf area—and attractive price. It is of a convenient size, is strictly self-contained and is shipped assembled ready to be plugged into any light socket. It upholds the Universal high standard for quietness, economy and durability which characterizes our complete line of remote cabinets, larger self-contained models, ice cream cabinets, water coolers and refrigerating units for all commercial purposes.

Universal Cooler Corporation

Detroit, Mich. - - - Windsor, Ontario, Canada



A GOOD Refrigerator BACKED *by a* SOUND SALES PLAN

You'll agree, of course, that a good product is absolutely essential to *any* successful selling plan. We have the unsolicited testimony of thousands of satisfied users as to the economical, reliable, quiet operation of the Wayne Electric Refrigerator. These letters prove beyond question, that the Wayne gives complete satisfaction.

And now—we have a new selling plan that is already earning profits for our dealers. We say new—but the fundamentals are as old as selling—only the application is new. And successful, as proven by the results our dealers are obtaining.

We'd like to tell you more about this plan—and the refrigerator behind it. Write us today. We'll send you the complete details.

THE WAYNE HOME EQUIPMENT CO., FORT WAYNE, INDIANA

WAYNE ELECTRIC REFRIGERATOR

SPECIAL TRAINS ARRANGED FOR N. E. L. A. CONVENTION

New York, N. Y.—Fast air liners and crack trains will carry thousands of delegates to the fifty-third convention of the National Electric Light Association to be held at San Francisco, June 16 to 20. Six special trains have been arranged for by the Convention Transportation Committee.

Leading off the cavalcade west will be the Red Special, which gets under way at New York City on May 31. This will be an all-expense tour and will extend over a period of approximately one month. Stops will be made at historic spots on the westward run and at stopovers in various large cities the conventioneers will be guests of public utility companies. The Red Special, after traveling the southern route, will steam into the convention city on June 15 and five days later it will resume its journey up the Pacific Coast, taking in Portland, Seattle, Vancouver, Victoria, in the much heralded Northwest. From here the touring utility men will proceed to Lake Louise and Banff, farther north in British Columbia, and down to Spokane. Yellowstone National Park will be the next great moment for the conventioneers, after which the special train will wend its way eastward over the northern route.

The Green Special, leaving Chicago on June 6, will cover eight days and take the delegates over the northern route, through the Canadian Rockies and then down the coast to San Francisco. Two direct runs will accommodate delegates wishing to leave at later dates. The Blue Special, New York section, leaves the east coast on June 12, while the Blue Special, Chicago section, pulls out from the Windy City on June 13. Homeward bound traffic will be cared for by the Home Special and the Purple Special.

Representatives planning to attend the convention, after finding a color that appeals to them and a special to their liking, are urged to send their reservations to the Convention Transportation Committee. For New York trains, Robert B. Grove, c/o United Electric Light & Power Co., 4 Irving Place, New York City, is handling reservations, while Ross I. Parker, c/o General Electric Co., 230 South Clark Street, Chicago, is in charge of convention traffic leaving that city on the Green and Blue Specials.

For the air-minded utility men, plane service in conjunction with railroad service is offered by the Universal Lines, T. A. T. Maddux Lines and the Western Air Express.

The Convention Hotel Committee has available a list of about fifty hotels where delegates may billet during the week of June 16 to 20. Reservations can be made by writing to W. G. Vincent, c/o Pacific Gas & Electric Co., 245 Market Street, San Francisco, Calif. No exhibits will be permitted in the hotel lobbies, public rooms or any hotel rooms.

Officially the convention will get under way at the Exposition Auditorium on the morning of June 16. However, the committee urges that as many delegates as possible register on June 14 and 15. The first general session will be held on Wednesday morning at 10:00 A. M. No exhibition will be held in conjunction with the convention this year, the committee finding it impossible to secure proper facilities for displaying the large number of products made by the electrical industry.

RADIO DISTRIBUTOR SIGNS UP WITH COPELAND

Des Moines, Iowa—Harger & Blish, one of the largest radio distributors here, have been appointed distributors of Copeland electric refrigeration for the state of Iowa and eight counties in western Illinois, according to Harry T. Kessler, vice-president of the Chicago factory branch. This firm controls a large and well organized dealer organization, with a sales outlet in every county seat in the state. Copeland sales are under the direction of H. H. Blish, Jr., vice-president and general manager.

The Auer Sales Company, Copeland distributors at South Bend, Indiana, has recently strengthened its executive staff by the acquisition of J. Howard Haley, formerly assistant treasurer of the Colin B. Kennedy Radio Corporation, and who will be in active association with Joseph Auer, head of the firm.

BALTIMORE DEALERS READY FOR BUILDERS' SHOW

Baltimore, Md.—A number of electric refrigeration dealers will be among the exhibitors showing more than $1,500,000 at the ninth annual Baltimore Better Homes and Building Exposition, to be held the week of April 26 to May 4 at the Fifth Regiment Armory. These include the Frigidaire Sales Corporation; the Hines Co., distributors of General Electric refrigerators; Approved Appliance Association, Graybar Electric Co., Consolidated Gas Electric Light & Power Co., Kelvinator distributors; Radio Supply Co., Copeland dealers in electric refrigerators, and a number of other local dealers.

EXPANDED RUBBER NOW OFFERED AS INSULATION

A NEW rubber insulation called "Onazote" is now being manufactured by the Expanded Rubber Co., Palace of Arts, London, England. Charles L. Marshall, inventor and patentee, is in this country completing plans for the manufacture of Onazote in the United States.

Onazote is unvulcanized rubber expanded into highly cellular form. Unvulcanized rubber, sufficiently warmed to become soft, is like unbaked dough in texture, but is still heavier for its bulk. In the Onazote process it is made to absorb a neutral gas under pressure, and then, during vulcanization, the expansion of the minute bubbles of gas blow it out into a cellular condition, turning it into a honeycomb of minute spaces each surrounded by a very thin film of rubber. The vulcanization can be stopped at a stage which leaves the spongy mass soft and pliable, or can be carried on until it is set as hard as ebonite. But whether it be soft or hard, the Onazote is extremely light, as the films surrounding each of the minute bubbles are very thin. The wall of each bubble, moreover, is complete, so that the material, hard or soft, is non-absorbent. In a rubber sponge, in contrast, the cavities communicate, so that water can be squeezed in or out.

Its conductivity to heat is only one and a half times that of air, and it is the lightest solid known, a cubic foot weighing only from three pounds to seven pounds. Plans are being made to push the sale of Onazote to refrigeration manufacturers. Because of its lightness it is adaptable to refrigerated trucks and railway cars.

FRIGIDAIRE IN BALTIMORE HAS LARGE DEALER SETUP

Baltimore, Md.—In its effort to cover this city and the vicinity in a very thorough manner, the Baltimore branch of the Frigidaire Sales Corporation has dealer agencies in most of the important business sections of the city. Recent dealer agency appointments include the Harp Co., North Avenue Market Building, North and Maryland avenues. This concern is engaged in the radio business. Immediately following its appointment as a dealer agency the concern had a demonstration of the newest Frigidaire in the North Avenue Market. Another recent dealer agency appointment is the Dahlmer-Kennedy Co., 1300 North Central avenue. This concern was formerly located at 745 North Gay street. It is engaged in the piano and radio business.

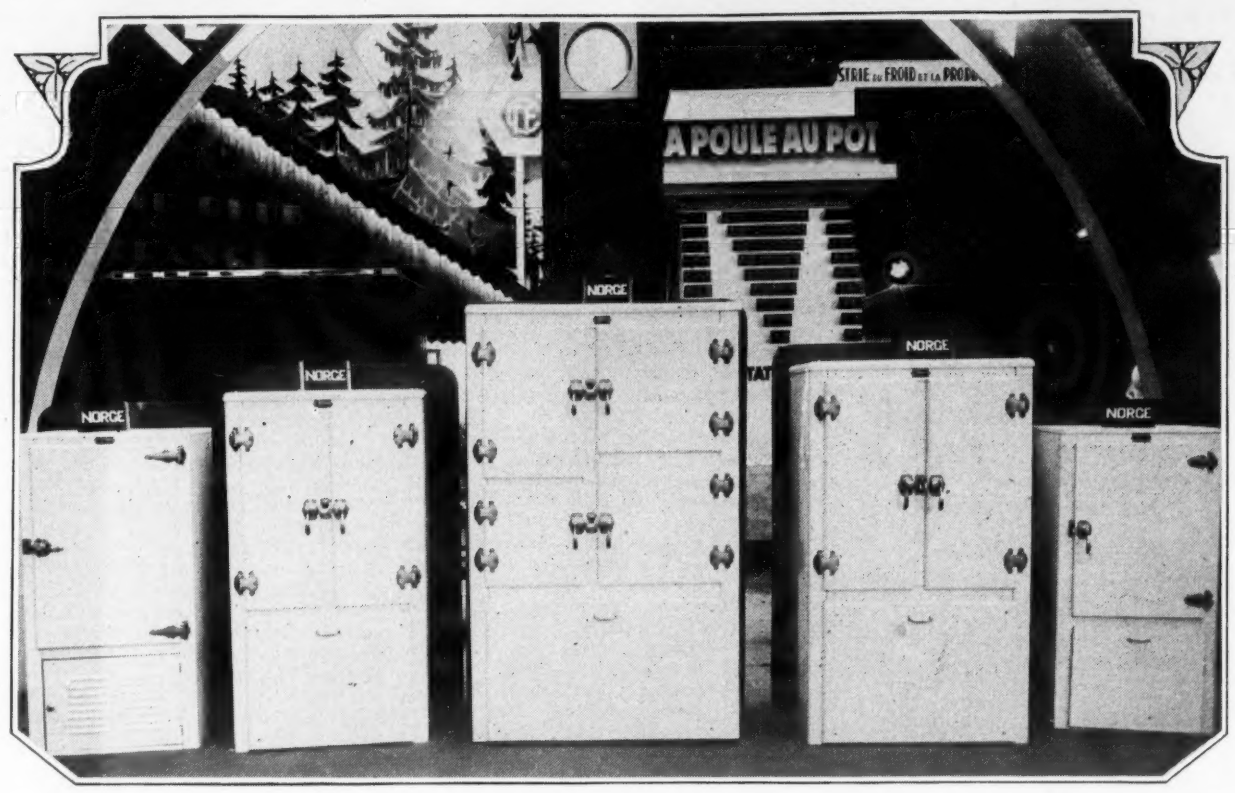
Other dealer agencies are located at the Hochschild, Kohn & Co. department store, Howard & Lexington streets; the United Auto Sales, Inc., 200 West North avenue, and at its branch at Commerce and Shipping Place, Dundalk; Schaub's, tire and auto accessory and radio shop, 1212 West Baltimore street; Fred L. Dunn, 5204 Belair road, Electric Appliance Co., 732 Frederick Ave., Catonsville; Fred Hemmeter, Jr., auto supply shop, 22 South Charles street; the Brunswick Music Shop, 425 South Conkling street; The Electrical & Hardware Co., Belair, Md.; T. R. Caltrider, Pikesville; G. B. Caltrider, Reisterstown; E. E. German, Towson; Service Stores Corp., Sparrows Point, and the Peddicord Sales & Service, Ellicott City, Md.

The local branch effected a tie-up with the Second Annual Baltimore Motor Boat Show, held at the Mar-Del Building, Charles street and Mount Royal avenue, Baltimore, Md. The concern was one of the thirty-four exhibitors at the event and had an attractive booth. The event was a success financially and from a sales point of view. Frigidaire secured its share of returns to characterize the tie-up a success.

STORZ ENTERS SIOUX CITY TERRITORY

Sioux City, Iowa—The Storz Electric Refrigeration Company, distributors of the General Electric line in Omaha, has opened a sales and display room here. Mr. Jones has been named manager of the branch. Ten salesmen will work in the Sioux City District.

Norge Refrigerators in Parisian Display



TWENTY-TWO foreign countries now number Norge Refrigeration among their outstanding American imports. Present indications show that an export volume will be reached during the current year at least five times as great as during 1928.

The John N. Willys Export Corporation, through the facilities offered by its sales organization throughout the world, has been remarkably successful in preliminary work as shown by this 500 per cent increase in sales volume in little over a year.

The latest distributor to be appointed by them is the Societe Auxiliaire Industrielle & Fonciere, already highly successful in the introduction and sales promotion of Norge products in France. Their preliminary shipments are being made in full carload lots. A photo of a portion of their display is shown here.

C. L. Fossati, former sales manager of the Willys-Knight Department of Watson & Cia, Willys-Overland distributors for the Argentine, is in charge of Norge export sales throughout the world. He has invaluable travelling and export experience throughout South America and with the Latin races generally.

AMERICAN SODA WATER POPULAR IN GERMANY

GERMANY is a good customer for American soda fountains, purchasing $100,594 worth in 1928 as compared with $39 in 1924, according to a statement just issued in Washington. Soda fountains such as are used in the United States were practically unknown in Germany before the end of the World War, and the usual fountain drinks so familiar to Americans had not been introduced there. After the war, however, there arose in Germany a demand for non-alcoholic drinks, and soft drinks of all kinds began to appear in increasing quantities. In 1924 the first fountain, a small one, was installed in Germany. It was not a great success, for the reason that the average German did not know what it meant and was ignorant of the usual fountain drinks. In the following years, however, the demand for ice cream sodas and other fountain products increased at a rapid rate, and at present there is a considerable number of fountains in use in many parts of the country.

Soda fountain equipment such as is used in the United States is not manufactured in Germany, although several manufacturers of carbonic acid gas machines, as well as those manufacturing siphons for the brewing industry, are contemplating the production of such equipment in Germany. Soda fountains in use in Germany are all of American make, having been imported directly from the United States or from the London branches of American manufacturers. It is predicted that the imports of fountains by Germany in the calendar year 1930 will exceed $200,000, or double the amount purchased by that country during the last year from American manufacturers.—*Soda Fountain.*

"*It was built by* BOHN"

The handy base cabinet may either be used for refrigerating machinery or the storage of cooking utensils, canned goods, vegetables, etc.

The name BOHN is our warranty that the finest materials obtainable have been utilized by skilled craftsmen and refrigeration engineers to build for you this beautiful and scientific product—an all-porcelain BOHN refrigerator.

BOHN installations include many of the leading hotels, restaurants and hospitals in America.

BOHN refrigerators are used exclusively on all Pullman-built railway dining and buffet cars.

The United States War Department has purchased hundreds of all-porcelain BOHN refrigerators for our army barracks and battleships.

In choosing BOHN refrigerators, discriminating home owners throughout the country have given BOHN a representative list of which any manufacturer might be proud.

Write for details of the remarkably low prices that are now prevailing.

BOHN REFRIGERATOR COMPANY
SAINT PAUL, MINNESOTA

Speed up production with

ANACONDA

DIE-PRESSED PARTS

ANACONDA Die-Pressed Parts speed up production because their close dimensions minimize machining, and because their smooth, fine-grained surface permits finishing or polishing at much higher rates than are possible with castings.

The absence of spills and blow-holes found in sand castings reduces rejections, which are particularly costly when the hidden defects are revealed only after considerable machining. Anaconda Die-Pressed Parts are gas, air and watertight, and have nearly twice the strength of ordinary castings.

In addition to Die-Pressed Parts, The American Brass Company produces Anaconda Copper, Brass and Bronze in every variety of sheets, wire, rods and tubes. These are used extensively in the manufacture of valves and fittings; condensers, evaporators and their component parts; ice-trays, cabinet trim, mouldings, hardware and miscellaneous screw machine products.

Further information on Die-Pressed Parts on request, or a representative will call at your convenience. Sample parts showing quality and finish gladly forwarded. Quotations may be secured by sending blue-prints, sketches or models of parts desired, stating quantities.

ANACONDA
from mine to consumer

THE AMERICAN BRASS COMPANY
General Offices: Waterbury, Connecticut
Offices and Agencies in the Principal Cities
Canadian Mill: Anaconda American Brass Ltd.
New Toronto, Ontario

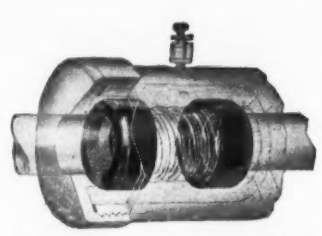
ANACONDA
COPPER ANACONDA BRASS

KELVINATOR IN MILWAUKEE OPENS SPRING DRIVE

Milwaukee, Wis.—The Electric Co., distributors for Kelvinator, are holding a special showing in the main lobby of the Public Service building where all models are displayed. The exhibit is open until 9:30 p. m. for the especial convenience of home owners who work during the day. With each Kelvinator sold the company gives free of charge a Sparklet, the miniature home soda fountain, with which the owner can make carbonated water and provide an endless variety of drinks and desserts to give zest to sated palates. Sparklets will be given to each purchaser of Kelvinator until May 17 when the present campaign ends.

NEW DEALER FOR MUSCLE SHOALS DISTRICT

Florence, Ala.—The McManus Furniture Company has been appointed dealers for Frigidaire in the Muscle Shoals district, comprised of three towns, Florence, Sheffield and Tuscumbia.



Style No. 2 Cooke Seal Ring

Leakage and Dividends Never Play Together!

No electric refrigerator can become a permanent paying success if it is a leaker. Complaints and bad publicity wipe out profits through service costs and destroy good will.

Leakage can now be entirely eliminated with the Cooke Seal Ring, which not only provides the manufacturer with a leakproof seal, but enables dealers to repair, on the job, machines with other types of seals, economically and efficiently.

Cooke Seal Rings don't leak, squeak or overload the motor, and they last indefinitely. Use this coupon now.

COOKE Seal Ring

20 N. Green Street Chicago, Illinois Dept. Z

Cooke Seal Ring,
20 N. Green Street, Chicago,
Dept. Z.
Please tell me more about Cooke Seal Rings.

Name .....
Address .....
City..... State.....

Chemists Find Acrolein Good Methyl Chloride Warning Agent

CHEMISTS who have been working in the laboratories of the Roessler & Hasslacher Chemical Co., Niagara Falls, N. Y. studying the problem of providing a warning agent for methyl chloride in refrigerating systems using more than a few pounds of refrigerant, state in a recent report that acrolein appears to be the best. This report, "Warning Agents for Methyl Chloride in Refrigeration Systems," is the result of months of experimental work by the Chemical Research Department of the Roessler & Hasslacher Co.

As outlined in the foreword of the report, the object of the research was to find a warning agent for admixture with methyl chloride so powerful that if a leak should occur from a methyl chloride refrigerating machine, those present would receive an unmistakable warning before dangerous concentrations of methyl chloride and warning agent in the air were reached.

Factors opposing and favoring irritants and odorants are listed. Objections to irritants are high toxicity,, handicap to fire fighters and service men, manufacturing and handling and cost of manufacturing. Favoring this class is the argument that probably danger of tolerance to the irritant is small and a dwelling can be rid of irritant vapors much more easily than of a stench.

In opposition to odorants, the following factors are given: Persons may become somewhat less sensitive to stenches with increased time of exposure. The most effective (organic sulphur compounds) are very disagreeable and hard to get rid of. Objections of service men and the possibility that sulphur compounds might over a period of a year or longer, give rise to serious corrosion. Factors favoring odorants are that they are relatively non-toxic as compared with the most effective irritants, will warn of small leaks, and offer no difficulties to fire fighters.

General requirements for warning agents, the report states, whether irritant or odorant, should satisfy the following requirements:

(a) The warning agent should be distinctive, powerful, and not toxic.

If the material is toxic, the warning concentration must be much less than the toxic or harmful concentration.

(b) Must not be excessively corrosive to copper, brass, bronze, cast iron and steel, under the conditions of machine operation.

(c) Must be stable in presence of methyl chloride, mineral oil and moisture at temperatures of operation of the machine.

(d) Must be soluble in liquid methyl chloride and should preferably be soluble in mineral oil and mixtures of oil and methyl chloride.

(e) Should have, in general, such physical properties, e. g., boiling point, melting point, vapor pressure and solubility, that its presence at any moment in all parts of the refrigerant system will be assured.

(f) Should require a relatively small concentration in methyl chloride.

(g) Should serve also as a leak detection agent or be compatible with methyl nitrite.

(h) Should be comparatively cheap and easy to manufacture.

Size of leak of which the warning agent must warn is considered in the following data from the report.

A leak of one pound of methyl chloride per year is equivalent to: (N. T. P.)

1.24 grams (0.04 oz.) per day of 24 hours, or

0.55 liter of vapor per day, or

23 cc. (1.4 cu. in.) of vapor per hour, or

0.4 cc. of vapor per minute.

All cases of poisoning in Chicago reported as having been caused by methyl chloride have occurred in kitchenette apartments having multiple unit, direct expansion refrigerator systems.

Assume that the volume of the average apartment is 200 cu. ft. or 56,600 liters.

In United States Public Health Service Bulletin No. 185 it is shown that the effect of 0.04% by volume of methyl chloride vapor in air on guinea pigs in 10 hours was "slightly injurious with no deaths." Although, on page 31, it is also stated that the "maximum amount for prolonged exposure" is 0.05 to 0.10% methyl chloride by volume, we shall stipulate, in order to be on the safe side, that the factor of safety must be greater because human life may be involved. Therefore:—

Assume that a 0.04% concentration can be safely tolerated for 10 hours. With no ventilation whatever, the time required for a concentration of 0.04% by volume of methyl chloride to be developed for different sizes of leaks is as follows:

Size of Leak	Days required to reach a concentration of 0.04% by volume with no ventilation
1 lb. per year	40 days
3 lb. per year	14 days
6 lb. per year	7 days
10 lb. per year	4 days
20 lb. per year	2 days

Looking at it another way, if we assume only one complete change of air in the apartment per day, the following maximum concentration of methyl chloride could build up in the air for the different sizes of leaks indicated:

Size of Leak	Possible concentration which could build up in air in the apartment
1 lb. per year	0.001% by volume
3 lb. per year	0.003% by volume
6 lb. per year	0.006% by volume
10 lb. per year	0.01 % by volume
40 lb. per year	0.04 % by volume

If we accept as true a statement by A. L. McLeod in the November, 1929 issue of "Woman's Home Companion," "In a large room with two double windows (closed) and an outside wall of sandstone, inside which was a layer of brick and another of lath and plaster, the air was found to be completely changed by seeping through the walls every four to five hours on a windless day. In a room with a fireplace the air was changed in one to two hours," two things become apparent. First, in the average apartment, a very much larger leak than 40 pounds of methyl chloride per year would be required to build up a concentration of 0.04%. Thus for five changes of air per day, the size of leak would have to be 200 pounds per year, or about 0.55 pound per day. Second, the size of leak required to produce fatal effects is of a very much greater order of magnitude than anything considered thus far. For example, in about the only case in Chicago where any quantitative data could be obtained, it was apparent that a loss of many pounds of methyl chloride occurred in a very short time, presumably during a few hours of one night.

A loss of many pounds of refrigerant in a few hours cannot be regarded as a leak. Rather, it is a rupture. It is a serious question whether a warning agent is needed for rates of loss which properly could be termed leaks. It seems highly improbable that leaks could cause fatalities or even serious illness. Rather they are caused by rates of loss so great that they must be considered as major ruptures of the machines. It appears that warning agents really would be satisfactory if they warned of ruptures even if they failed to warn of leaks.

It is pointed out in passing that the above data show that it would be next to impossible for a single-unit household machine, containing from 2 to 8 pounds of methyl chloride, to cause serious illness or fatality under ordinary conditions of leakage.

It is important to keep the above considerations in mind when interpreting the results. It seems fairly well established that for guinea pigs the maximum safe concentration of methyl chloride vapor for 5 hours' exposure is 0.05-0.1% by volume. For this reason the principle was adopted that a warning agent could be considered satisfactory only if small percentages of the agent added to methyl chloride in a machine gave unmistakable warning of concentrations of 0.05-0.1% by volume of methyl chloride in air, produced by liberation from the machine of carefully measured quantities of the refrigerant-agent mixture. This was a severe test and resulted in eliminating some substances which, from the standpoint of ruptures, might have been included as satisfactory so far as warning power is concerned.

Such substances will be mentioned later. It is merely emphasized here that under conditions of machine rupture, the most powerful warning agents

(Concluded on Opposite Page)

Brownell Cooler Reduces Water Consumption in Ice Machines

THE Brownell Water Saving Cooler has been developed by the M. H. Treadwell Company, 140 Cedar Street, New York City, and is now on the market after an experimental period covering nearly three years.

Briefly, the unit consists of a bedplate mounted on which are a pump and motor. At the end of the bedplate is attached the fan housing, the rotor of which is mounted on the extended shaft of the driving motor. Above this is the cooling chamber, which consists of a series of sprays and baffles for breaking up the water and thoroughly mixing it with air to allow evaporation of a certain amount of circulating water to take place, thereby cooling it.

The accessories for the unit consist of a pressure gauge, water glass, thermometer, float valve for maintaining the water level in the tank, and the necessary electrical apparatus.

The unit is made in various sizes and will take care of refrigerating machines having a capacity of ½ up to and including 7 tons on this unit type.

For machines of larger capacity, the Treadwell Company are manufacturing a cooling tower which is of the forced draft principle. This unit can be furnished in any size.

The amount of water consumed by one of these units is approximately one per cent of that normally used for the cooling of ice machines when using direct flow. Technically, the amount of water used is determined by the amount of heat expressed in B.T.U. per minute, removed by the ice machine and divided by the latent heat of evaporation in the temperature of the water circulated.

RECO ELECTRIC MILK COOLING CABINETS

The "Toughest" and "Cleanest" Cabinet Ever Built for the Dairy

Electric refrigeration dealers selling Reco Milk Cooling cabinets this year will find these sales to represent unusually PROFITABLE BUSINESS.
For here is a "boiler plate" cabinet that sells itself—stays sold, and ever after becomes a potent factor in creating prospects and sales.
Note the cabinet construction briefly described below, then write us for further information and for sales proposition.

CABINET CONSTRUCTION

Exterior of Cabinet—Steel boiler plate 5/32" thick, welded water-tight.

Interior of Cabinet—Lined with extra heavy copper alloyed steel.

Meeting Rail—(Around upper rim of cabinet where cans usually strike when loading cabinet.) Extra heavy steel channel 5/32" thick, welded at corners. Insulation—3" cork board sealed in.

Cover—Split, with one end fastened down so machine can be mounted on top if desired. Insulated with 2" of an extra light weight material and sealed in. Covering is extra heavy copper-alloyed steel.

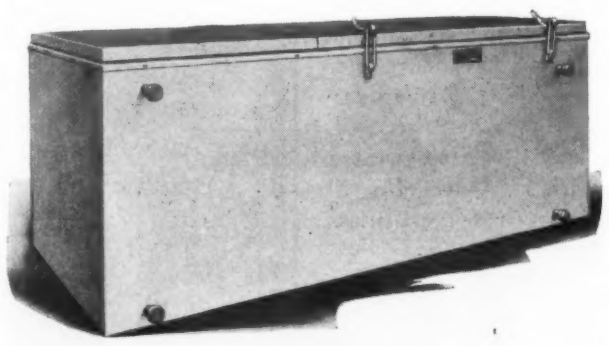
Cooling Coil—Made of best quality extra heavy refrigeration tubing. (Ammonia coils furnished on special order.)

Coil Supports—Basket type rack made of galvanized strips 1½" wide and 3/16" thick, welded. Easily cleaned.

Circulating Water Outlets and Inlets —½" and 1" galvanized pipe, one upper and one lower, mounted each side of front of cabinet.

Overflow Pipe — Combination drain and overflow located inside of cabinet. One-inch galvanized pipe.

Finish of Cabinet—Special heavy-body enamel. Color—Sea Green.



Standard 6 Can Reco Cabinet

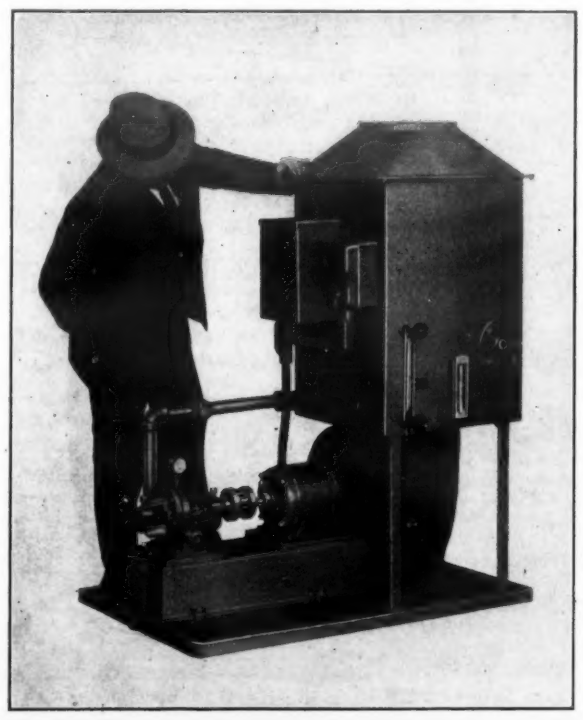
Operates with any type of Electrical Refrigeration Units

DOMESTIC UTILITIES

Division Refrigeration Corporation of Maryland

Offices and Plant—Garrison Boulevard and Western Maryland R. R.

BALTIMORE, MARYLAND



Compactness Simplifies the Installation of the Brownell Cooler.

WARNING AGENTS

(Concluded from Opposite Page)

selected by this work would of course be still more effective; also that several substances which for leaks are of doubtful utility would give sufficiently positive warning under rupture conditions.

General Conclusion

The unanimous opinion of the chemists who were connected with the problem was that although several substances are very good warning agents in some respects, each one has some objectionable properties. At present acrolein appears to be the best.

Summary of Results

The following discussion enumerates the advantages and disadvantages of the best warning agents examined. No attempt is made to list the warning agents in order of preferece.

1. ACROLEIN (CH_2: CHCHO)

ADVANTAGES

a. The warning is distinctive and powerful, and becomes increasingly effective with length of exposure.

b. It is an eye irritant, and produces lachrymation.

c. It is not corrosive to copper, brass, bronze, cast iron and steel under the conditions of household unit machine operation.

d. There was no evidence of instability over a period of 6 months when methyl chloride in a refrigerating machine was charged with 1% by weight of acrolein.

e. It is soluble in liquid methyl chloride and soluble in mixtures of oil and methyl chloride at the concentration used.

f. A 1% mixture in methyl chloride gives a satisfactory warning of 0.05-0.1% by volume of methyl chloride vapor in air.

g. It can be used with the leak detection agent methyl nitrite.

DISADVANTAGES

a. Acrolein is exceedingly toxic. It is rated as one of the most poisonous of all substances. (Int. Crit. Tables, Vol. 2, page 318.)

b. There was some indication of polymerization, when glass tubes containing methyl chloride with 1-3% by weight of acrolein, mineral oil, moisture and metal strips were sealed and maintained at 40° C for four weeks. However, actual machine tests indicate that it may have a satisfactory life in service.

2. SULPHUR DIOXIDE (SO_2)

ADVANTAGES

a. The warning is distinctive and powerful, and increases in effectiveness with length of exposure.

b. It is an odorant as well as a throat and lung irritant.

c. It is not excessively corrosive under the conditions of household unit machine operation.

d. It appeared stable in presence of methyl chloride during the short preliminary tests that were made. (Other laboratories have tried the mixture and report that the mixture is stable and its life in a machine can be taken to be as long as that of either ingredient used separately.)

e. A 5% mixture of sulphur dioxide in methyl chloride gives unmistakable warning before harmful concentrations are reached. Probably 10% of SO_2 is better, all things considered.

f. The 5% mixture can be used as a leak detection agent for leaks greater than 2 lbs. per year.

g. Sealed tube corrosion tests show dry sulphur dioxide-methyl chloride mixtures to be non-corrosive.

h. The physical properties of SO_2 are more nearly like those of methyl chloride than any other warning agent investigated.

DISADVANTAGES

a. It is very corrosive with moisture and would require careful drying of refrigerator systems.

b. It cannot be used with the leak detection agent, methyl nitrite.

c. Sulphur dioxide is less toxic than Acrolein and about one-fifth as toxic as hydrocyanic acid. (See U. S. Public Health Service Bulletin, No. 185, page 31.)

3. ALLYL ALCOHOL (CH_2:$CHCH_2OH$)

ADVANTAGES

a. The warning is unmistakable and powerful, and becomes increasingly effective with time of exposure.

b. It is a nose and eye irritant.

c. It is not corrosive under the conditions of household unit machine operation.

d. It is stable in presence of methyl chloride, mineral oil and moisture in a refrigerating machine, (13 weeks).

e. A mixture of 2% by weight in methyl chloride gives satisfactory warning when used in a machine containing no float chamber.

f. It can be used with methyl nitrite.

DISADVANTAGES

a. It accumulates in the float chamber and the warning effectiveness is reduced when leaks occur from other parts of the machine. It is probable that larger concentrations of allyl alcohol will be necessary in the float chamber type of machines than in other types.

4. BUTYL MERCAPTAN (C_4H_9SH)

ADVANTAGES

a. The warning is unmistakable and powerful.

b. It is practically harmless. (Bureau of Mines technical paper 267, page 7).

c. It is not excessively corrosive under the conditions of household unit machine operation, (10 weeks).

d. It is stable under the conditions of household unit machine operation, (10 weeks).

e. It is soluble in mixtures of oil and methyl chloride.

f. A 1.0% by weight mixture with methyl chloride gives a satisfactory warning.

DISADVANTAGES

a. A machine operating for 10 weeks with a 2% by weight butyl mercaptan-methyl chloride mixture, formed a slight deposit on the head of the compressor. This might or might not be serious over a longer period of operation.

b. The odor is offensive and more difficult to expel from a room than that of irritants.

c. Sealed tube corrosion tests showed butyl mercaptan to be "moderately" corrosive.

5. ETHYL MERCAPTAN (C_2H_5SH)

The behavior of ethyl mercaptan in a refrigerating machine is practically the same as that of butyl mercaptan. However, it has the disadvantages that it is non-compatible with methyl nitrite and it apparently causes a heavier deposit of sediment, which in time, might interfere with operation of the machine.

6. DIMETHYL SULPHIDE ($(CH_3)_2S$

The remarks made concerning ethyl mercaptan apply to dimethyl sulphide except that nothing is known concerning the compatibility of the latter with methyl nitrite.

7. CHLOROPICRIN (CCl_3NO_2)

Results of brief quantitative tests indicate that chloropicrin may be one of the best irritants. It has an advantage over all other warning agents except sulphur dioxide in that it is an article of commerce. Its toxicity is somewhat less than that of acrolein. (Int. Crit. Tables, Vol. 2, page 319). Chloropicrin is non-corrosive in the absence of moisture but very corrosive in the presence of moisture.

The effectiveness of chloropicrin as a warning agent is slightly greater than that of allyl alcohol.

The substances in the table at the right have been given the preliminary test and rejected.

Preliminary Tests

The following methods for conducting preliminary tests were employed:

A. Adjustable-Leak Method

After a machine containing a warning agent, methyl chloride and a high grade ice machine oil was operating normally, a known amount of the mixture was allowed to leak into the refrigerator box by means of an adjustable leak equipment. After two hours, several persons observed the intensity of the odor by opening the door and holding the head in the box for 10 seconds. This method was not as satisfactory as the next two and was abandoned after the early experiments.

B. Cylinder Method

A machine containing the warning agent, methyl chloride and oil was operated normally (refrigerating) for two hours or longer. A 200 gm. portion of the mixture was then drawn off from the liquid receiver into a liquid methyl chloride cylinder of 3 pounds capacity. A known weight of this material was allowed to escape into a closed room either as a vapor or liquid. The air in the room was stirred by an electric fan for 15 minutes before observations were recorded.

C. Balloon Method

The mixture was removed during actual operation by filling balloons with vapor from either the liquid or vapor side of the machine. Known amounts of mixture were withdrawn by filling the balloons to predetermined size. As quickly as possible, the balloon of known volume was broken in a closed room and observations were made after the air had been stirred for 15 minutes by an electric fan.

Life Tests

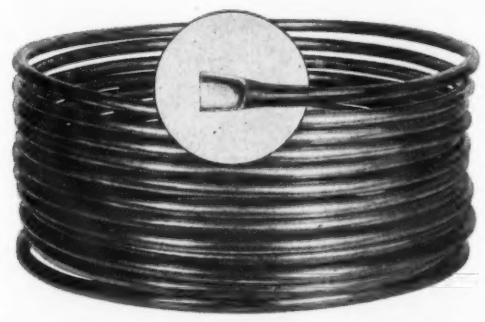
The machines were charged with the concentration of warning agent found to be best in preliminary tests. When it was decided to discontinue operation of the machine, a final odor test was made and the machine inspected carefully for signs of corrosion, gumming, copper plating, sediments, condition of oil, float chamber (if any), screen, and valves.

Odorant	Formula	Reason for rejection
Acetaldehyde	CH_3CHO	Odor not sufficiently intense
Allyl chloride	CH_2:$CHCH_2Cl$	Odor not sufficiently intense
Alpha ionone	$C_{13}H_{20}O$	Odor not sufficiently intense
Amyl butyrate	$C_3H_7COOC_5H_{11}$	Odor not sufficiently intense
Amyl sulphide	$(C_5H_{11})_2S$	Odor not sufficiently intense
Amylene	C_5H_{10}	Odor not sufficiently intense
Ammonia	NH_3	Reacts with CH_3C_1—Corrosive to copper
Butylene	C_4H_8	Odor not sufficiently intense
Citronella		Odor not sufficiently intense
Dimethyl disulphide	$(CH_3)_2S_2$	Unstable
Diethyl carbonate	$(C_2H_5)_2CO_3$	Odor not sufficiently intense
Diphenyl oxide	$(C_6H_5)_2O$	Odor not sufficiently intense
Ethyl acetone		Odor not sufficiently intense
Ethyl thioacetate	$CH_3COSC_2H_5$	Odor not sufficiently intense
Isoamyl valerate	$C_4H_9COOC_5H_{11}$	Odor not sufficiently intense
Methyl mercaptan	$H_2NC_6H_4COOCH_3$	Odor not sufficiently intense
Methyl anthranilate	CH_3SH	Corrosive action in machine
Methyl salicylate	$HO.C_6H_4COOCH_3$	Odor not sufficiently intense
Oil of Cassia		Odor not sufficiently intense
Oil of Eucalyptus		Odor not sufficiently intense
Oil of Geranium		Odor not sufficiently intense
Oil of Lemon		Odor not sufficiently intense
Oil of Peppermint		Odor not sufficiently intense
Oil of Pine		Odor not sufficiently intense
Oil of Sassafras		Odor not sufficiently intense
Oil of Tar		Odor not sufficiently intense
Phenyl isocyanide	C_6H_5NC	Odor not sufficiently intense
Pyridine	C_5H_5N	Odor not sufficientyl intense

Irritant	Formula	Reason for rejection
Allyl isothiocyanate	CH_2:$CHCH_2NCS$	Irritation not sufficiently intense
Crotonaldehyde	CH_3CH:$CHCHO$	Irritation not sufficiently intense
Dichlorethyl ethyl ether	$CH_2Cl.CHClOC_2H_5$	Hydrolyzes easily to give HCl
Phenacyl chloride (Chloracetophenone)	$C_6H_5COCH_2Cl$	Irritation not sufficiently intense
Methyl chlorocarbonate	$ClCOOCH_3$	Irritation not sufficiently intense

DEHYDRATED
WOLVERINE
SEAMLESS
COPPER
TUBING

Highest quality seamless copper tubing—perfectly dehydrated and solder-sealed—made to A. S. T. M. Specifications (B 68-27T)—ready for quick installation. Send your production requirements for quotations—or wire for rush shipment from stock.



WOLVERINE TUBE CO.

SEAMLESS COPPER BRASS & ALUMINUM

1431 Central Ave. Detroit, Mich.

Phone Cedar 5000

Sales offices in all major cities. Write or phone for name of nearest representative.

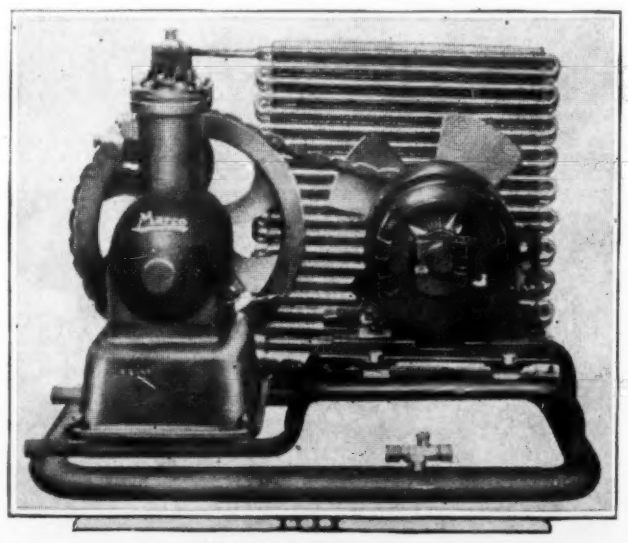
Pioneer British Manufacturer Has Varied Line

MARCO REFRIGERATORS, LTD., London, S. W. 16, England, pioneer manufacturers of British automatic electric refrigeration, has a line of both domestic and commercial equipment.

For the domestic prospect, three models are available. These have food storage capacities of 4½, 7½ and 11½ cu. ft., respectively. These models are of all-steel construction, with hard white cellulosed finish, chromium plating externally, and one-piece porcelain enamel interiors. The heavily-tinned metal shelves are easily cleaned, and a solid copper cold accumulator has trays for making ice. For an in between model, Marco has the Type DMT/7 for flats, small homes and shops, where the top of the refrigerator can be used as a counter. This model is 36 inches high and in the home the top can be used for a work table.

Marco condensing units are of the air-cooled type and use sulphur dioxide as the refrigerating medium. They have capacities from 7 to 800 cu. ft.

Refrigerators for commercial installation are designed for butchers, provision stores, country houses, institutions, cafes and hotels. These cabinets are of the reach-in type and have varying capacities. Finish may be had in oak or white enamel. For large installations, wall coolers are available.



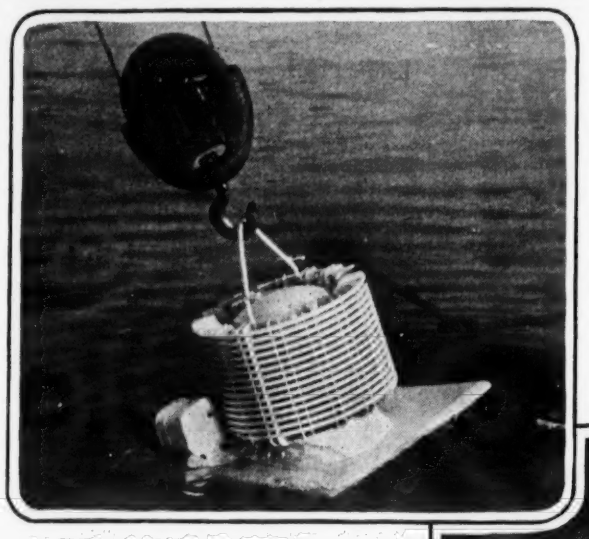
One of the Marco Air Cooled Condensing Units.

KEROTEST *forged brass* 3-WAY VALVES

Investigate this Kerotest Type 270 Manifold Valve with all three flare spuds forged in the body. It has proved excellent for small duplex apartment or show case installations. The Kerotest original style seal cap over stem eliminates leakage and makes use of socket wrenches unnecessary. Bulletin sent upon request.

KEROTEST MANUFACTURING CO.
Pittsburgh, Pa.

Fire and Flood Fail to Stop G. E. Refrigerator



General Electric Refrigerator coming up for air after its bath in the Erie Canal.

(*Concluded from Page 1*)

frigerator, gasoline poured upon the flames, and, while the exterior was blackened, the interior was unharmed.

In all of these tests, the refrigerator was in actual operation, an asbestos cable having been used during the fire test.

The water test, it was decided, was the easiest for dealers to stage.

The response from dealers to the suggestion for local demonstrations of the water test was so great that the factory was kept busy working overtime to turn out the special glass tank and the glass doors to be used in the demonstration.

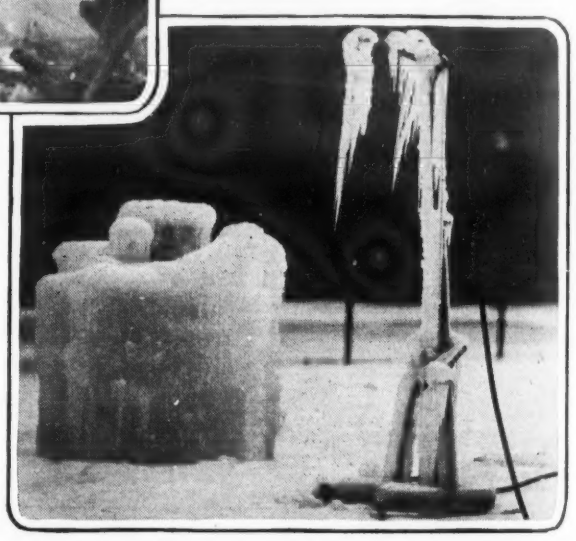
With national advertising, striking window displays and banners, direct mail, newspaper advertising, outdoor bulletins and many other features, the sales promotion division of the General Electric refrigeration department paved the way for the demonstration opening. The radio, too, was used in a nation-wide hook-up to tell the story.

The regular April mailing piece was built around the "Drowned in Water" idea. Four-page illustrated letters are being used as follow-up mailings to customers and prospects, drawing their attention to the demonstration and inviting them to witness it. Door-knob hangers were supplied dealers, with the suggestion that crews of boys be hired at small cost to place hangers on the door-knobs in the neighborhoods of homes of best prospects. These hangers featured the demonstrations. Lantern slides also were supplied, while some dealers are conducting essay contests.

And the telephone was not overlooked. Office workers called prospects and advised them of the demonstration, while attention of motorists, car riders and pedestrians was won by brilliantly-colored twenty-four sheet posters.

Over the radio on April 19, Floyd Gibbons, war correspondent, told the story of the demonstration, and, incidentally, mentioned that the words "Drowned in Water" held a special significance for him, inasmuch as he almost went through the experience himself, back in the dark days of 1917. In February of that year he was crossing to Europe to cover activities at the front for his newspaper. The boat was torpedoed and Gibbons spent hours in the water until rescued.

Many dealers staged pre-showing, inviting prominent people of their respective communities to private demonstrations.



King Winter does his bit by encasing the G. E. in a coat of ice.

KELVINATOR SALES AT NEW PEAK IN LOS ANGELES

Los Angeles, Calif.—According to J. Simon, president of the Kelvinator Los Angeles Co., the first week in March marked the heaviest selling in volume and dollars ever recorded at Los Angeles.

A selling drive is in progress at Los Angeles and Mr. Simon expresses the belief that the showing will be still greater when full returns are in. A banquet and cash prizes will be awarded at the conclusion of the sale late in April.

FRIGIDAIRE FOR NEW APARTMENT HOTEL

Seattle, Wash.—Frigidaires are being installed in the new Barbara Frietche apartment hotel, which will soon be completed at 17th Avenue and E. Spring Street, that city. Twenty-two suites of two, three and four rooms are included in the apartment dwelling.

MORE TOPPERS' TALKS

IN the April 9 issue, the News printed a number of extracts from statements in regard to their methods of work made by the G. E. salesmen, who earned places in the Cabinet of the Toppers Club as a reward for their sales records in 1929. These brief statements present an unusually intimate view of how a refrigerator salesman thinks and acts. Additional excerpts follow, every one made by one of G. E.'s leading salesmen.

"The only way a man can produce the greatest amount of business from his territory is by knowing and not guessing at where they are located, and to do this he must pull door knobs. There is no other way—and I doubt if there is a man in the entire sales force who can look at a house and say, 'there's a hot one!' If he does, he is just kidding himself."

"Have been very successful with evening calls, as both man and wife are home, and as one does not usually buy without the other's consent, chances of closing are much better than talking to one alone."

"In my personal experience of selling General Electric refrigerators, I find it not only helpful, but practically necessary to have complete knowledge of my territory and everyone in it, and to talk electric refrigeration to everyone I meet, regardless of whether I am attempting to make a sale or not."

"Most of my work is done at night, as I find it makes better satisfied customers when one works the sale out with both members of the family. I learned at first that some men would buy if I could sell the wife on the idea. When I sold her, he would deny making the promise, so by getting them together it prevents either of them passing the buck."

"In my own individual work I maintain an active prospect file of approximately 300 names, which I secure through canvassing inquiries at our showrooms, club membership lists, etc., and leads from present owners. These prospects are periodically circularized and followed up with personal calls. I use every available means to secure prospects, but my greatest success has been with the offering of refrigerator dishes and Telechron clocks to owners of General Electrics. In my calls to the homes, I never fail to leave a tape-measure or a bridge score card, as well as the standard literature. If I know that there are children in the house I will bring the story, 'A Knight in the White Castle.' These novelties are inexpensive, but go a long way in securing orders. I make my contacts in the day time, but 75% of my sales are closed in the evenings."

"Local and national advertising tell the story of the General Electric refrigerator to the prospective purchaser before the salesman ever comes in contact with him. Direct mail every month makes an impression on the prospect, which helps the salesman a great deal when he calls."

"I believe that regular working hours each day, with plenty of night interviews, is the surest way to sales success. I believe that too many salesmen take "NO" too easily. It is one of the first things I practiced when in the field—to try to keep talking until I strike a note of interest."

"The first essential thing for a salesman to do is to sell himself to the prospect, and, in my opinion, the easiest way to do this is to prove to the prospect that he is a gentleman. This may be done by words or actions. The old method of putting the foot in the door to keep the lady from closing it, if she so desires, is passé. I believe it is the lady's privilege to speak to or not to speak to a salesman, especially a stranger, and if the salesman proves to her that he is as much a gentleman as she is a lady, she in turn will show that she is equally the lady that he is the gentleman; consequently, the first interview. Be courteous and use the appropriate language."

"I believe a successful salesman should first try to mould his character so that it is beyond reproach; he should always be neatly groomed, well shaven, shoes polished, neat, clean, hair combed, always in an immaculate condition so that he is always at ease regarding his personal appearance. He should have a pleasant tone in his voice, try to have as pleasing a personality as possible, be courteous, and always a gentleman under any and all circumstances. He should live a clean, wholesome life, getting plenty of rest so that his mind is always clear and alert and he is always ready and on his toes to meet and overcome any emergency."

"If by chance I lose a sale to a competitor, I never fail to wish the prospect happiness and comfort in her purchase. By so doing I have received several good prospects from owners of competitor machines."

"I rang door bells, ran from dogs, searched barns, milk houses, cotton gins, went across the fields and orchards to some of the prospects, but it was worth while, as usually the sales presentation book helped put the story over, and I knew no one else had a better product to offer."

"Dig up your prospects and make friends during the day, and then at night or in the evening after supper drop in on your prospect and usually you will find both husband and wife together and willing to talk their heads off. In this way I have eliminated the old story of 'See my wife,' or 'Go talk to my husband.' You have them both together and the buck cannot be passed. I can honestly say that 90 per cent of my sales have been due to night calls."

TO MANUFACTURERS OF ELECTRIC AND GAS UNITS

If you want CABINETS as you want them let PUFFER-HUBBARD build them. We work to specification.

Puffer-Hubbard Mfg. Co.
MINNEAPOLIS, MINN.

HANDY & HARMAN Silver Solders QUALITY SERVICE

THE USE OF "HANDY" SILVER SOLDERS

in brazing connections in electric refrigerators is an evidence of a will to safeguard the user against possible gas-leaks.

A few cents per unit gives dealers and their salesmen a valuable argument to overcome the fear that sensational publicity has planted in so many minds.

Handy Silver Solders make neat gas-tight joints and connections, with speed and economy.

Send for our new Bulletin No. 3ER

Handy & Harman
57 William St.
New York City

precision built

Specializing in
Refrigeration Compressor
Eccentric
and
Crank Shafts

Made to your specifications. Send us your blue prints — we'll send you our prices.

Modern Machine Works, Inc.
195 Milwaukee St. MILWAUKEE, WIS.

Fulco
REFRIGERATOR COVERS

"FULCO" covers are used by those dealers who realize the importance of making deliveries in perfect condition—without scratches or broken enamel. For they know that complaints mean dissatisfied customers and loss of business.

"FULCO" covers are a real service feature that helps sales and holds trade.

Substantially constructed, heavily padded, box-shaped, providing perfect protection.

Give us the dimensions of your refrigerators, and let us quote special prices on your individual needs. Write our nearest house.

ON AND OFF IN A JIFFY

Fulton Bag & Cotton Mills
Manufacturers Since 1870
ATLANTA · NEW ORLEANS · DALLAS · ST. LOUIS
MINNEAPOLIS · BROOKLYN · KAN. CITY, KAN.

TRADE MARK EXTRA DRY ESOTOO
THE PUREST SULPHUR DIOXIDE
Analysis Guaranteed
WE HAVE AN AGENT, WITH OUR PRODUCT IN STOCK, NEAR YOU — WIRE US WHERE WE CAN SERVE YOU
VIRGINIA SMELTING CO. West Norfolk, Va.
F. A. EUSTIS, Sec. — 131 State St. BOSTON — 2 Rector St. NEW YORK

GRIGSBY-GRUNOW COMPANY ELECTS OFFICERS

At a meeting of the board of directors of the Grigsby-Grunow Company, held on April 14, B. J. Grigsby, who has been president since the company was organized, became chairman of the board of directors. He will continue as chief executive officer. W. C. Grunow, who has been vice-president, was chosen president of the company.

Vice-presidents were chosen as follows: Herbert E. Young, vice-president in charge of sales; Duane Wanamaker, vice-president in charge of advertising; H. E. Kranz, vice-president in charge of engineering; and A. C. Winnan, vice-president in charge of purchases. J. L. Overlock was elected vice-president and treasurer. R. R. Trimarco, formerly assistant secretary-treasurer, was elected secretary.

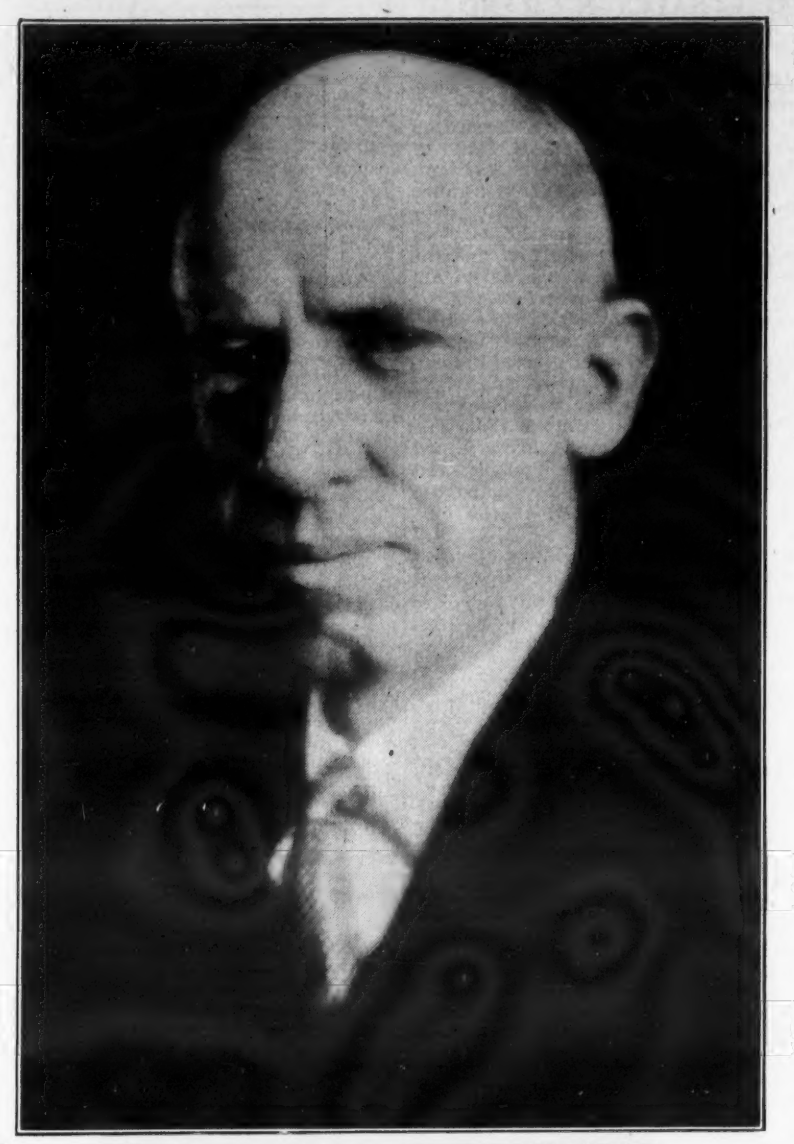
At left—Wm. C. Grunow

At right—B. J. Grigsby

Below

Duane Wanamaker Herbert E. Young

J. L. Overlock



NORGE DELIVERIES GET UNDER WAY AT FACTORY

Detroit, Mich.—Deliveries started recently on a new line of household electric refrigerators of Norge Corporation, subsidiary of Borg-Warner Corporation.

Major Howard E. Blood, president and general manager, in a statement accompanying the announcement, outlines Norge policies affecting sales, advertising and distribution. "We are now in volume production," he says, "concentrating on the manufacture of three household models.

"Sales are to be handled through distributors in all of the larger cities, many of whom have been named. The selling campaign is being accompanied by a factory program of advertising, which was initiated April 1 in daily newspapers and trade publications, and will be expanded as additional distribution territory is assigned."

JOINS KELVINATOR SALES PROMOTION STAFF

Detroit, Mich.—T. A. Jenkins has been appointed a member of the Kelvinator sales promotion staff, and will work under District Manager Ritter and Caulkins in the Ohio and Michigan territory.

FURNITURE STORE ADDS G. E. MODELS

Seattle, Wash.—Grunbaum Brothers Furniture Company, Inc., has opened a new department for electric refrigeration with a complete line of General Electric models on display. S. A. Terry has been appointed to head the new department of the Sixth avenue store.

MAJESTIC UTILITIES

(Concluded from Page 1, Column 5)

ship of one-fourth of the stock presently to be issued, will have practical control of the company. It is anticipated that remarkable economies will be accomplished through a common management that will be of great value and benefit to both companies.

"The Majestic Household Utilities Corporation will manufacture, under the trade mark 'Majestic,' a complete line of electric household refrigerators, and it is understood that ultimately other household utilities, including vacuum cleaners and washing machines, will be manufactured.

"By the charter of the corporation the number of shares of stock authorized is 600,000, all of which are common shares of no par value. Of these, 125,050 are issued and outstanding. In addition, 374,950 shares will be presently issued. An additional 100,000 shares will remain unissued for the time being, and will be available for corporate purposes.

"The corporation has no funded indebtedness, no preferred stock, and no bank debts or contingent liabilities.

"A block of 125,000 shares of the capital stock of the corporation was issued to Grigsby-Grunow Company in consideration of its transfer to the corporation of that part of its business, assets and good will, used and contemplated for use in connection with the manufacture and sale of the new Majestic refrigerator, including also patent rights and trade marks.

"It was announced that 374,950 shares of the additional issue of stock was to provide working capital and funds for the acquisition of plants and equipment. These shares will be offered for subscription at $25.00 per share; $3,000,000 of this amount will be required for machinery and equipment; approximately $5,373,750 will be available for working capital.

"The officers of the new corporation are as follows: B. J. Grigsby, president; W. C. Grunow, vice-president; A. C. Winnan, secretary; J. L. Overlock, treasurer; R. R. Trimarco, assistant secretary and assistant treasurer; J. R. Cardwell and Albert F. Mecklenburger, directors.

"It was announced that a full line of refrigerators has been designed and perfected. Shipments have been made in interstate commerce, and the trade mark registered and protected. These refrigerators have been tested in every known way, and under varying conditions over an extended period of time, and it is declared that their efficiency, practicability and reliability are established facts. Every part of the refrigerator will be manufactured by the new corporation."

As stated in the Feb. 26 issue of the NEWS, extensive additions to the Grigsby-Grunow radio plants have been built for the manufacture of the Majestic refrigerators.

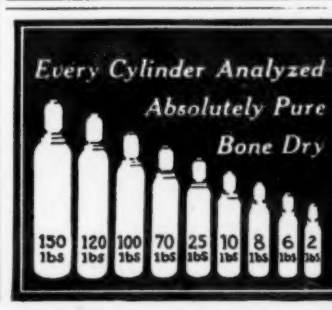
E.T.L. Service for Domestic and Commercial Electric Refrigeration

Testing and experimental laboratory service for Manufacturer, Distributor, Central Station—Test data exclusive property of client.

ELECTRICAL TESTING LABORATORIES

80th Street and East End Avenue, NEW YORK CITY, N. Y.

Every Cylinder Analyzed Absolutely Pure Bone Dry

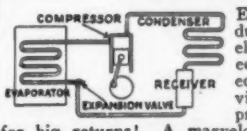


SULPHUR DIOXIDE for DIRECT CHARGING

Also Ton Drums Tank Cars

ANSUL CHEMICAL COMPANY MARINETTE WISCONSIN

Learn ELECTRIC REFRIGERATION AT HOME!



Every man who produces, sells or services electric refrigerating equipment can now equip himself with vital principles and practices so necessary for big returns! A marvelous practical method offered by this recognized school brings you complete training at home in spare time—at low cost!

Complete—Easy to Grasp—Approved

Unlike ordinary schooling. No study drudgery. Practical throughout. Prepared by experts. Approved by leading manufacturers. Charts, drawings, diagrams help you learn quickly. That's why manufacturers recommend it to employees and dealers. Many new features. Easy terms. Write for catalog now—FREE without obligation.

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Trained Men Available
U. E. I. graduates everywhere. Let us know when you need men for any jobs. This service free to employers and employees.

FREEZEL

HOUSEHOLD REFRIGERATING SYSTEMS INSTALLED IN THE NEW

SEEGER Porcelain Cabinets

Solve the Problem of the

WHOLESALE DISTRIBUTOR

IN SECURING:

1. Dependable quality
2. Competitive prices
3. Profitable margins

Freezel Systems

are Time-Tested - Quiet - Simple
Dependable - Low in First Cost
Low in Maintenance

LIST PRICES AS LOW AS

$139.00

AT THE FACTORY

The FREEZEL Corp.

481 Main St.

GARDNER, MASS.

G. E. SALES IN GRAND RAPIDS MOUNTING

Grand Rapids, Mich.—General Electric sales in western Michigan are, and have been, on the increase, according to figures made public by C. H. Stull, of C. H. Stull Company, western Michigan distributors for this line. The consumer sale increase for March, 1930, over March, 1929, is 124% in the city of Grand Rapids, and for the first quarter ending April 1, in western Michigan, the increase was 25% over last year.

C. H. Stull Company operate 14 salesmen in its territory and are lending modern and unique sales service aids to its dealers. Two or three campaigns are being formulated at this time.

A short time ago, F. J. Walsh, formerly of the Grand Rapids *Press*, joined the company as publicity manager, and he is now working out some campaigns for the local field as well as the outstate territory.

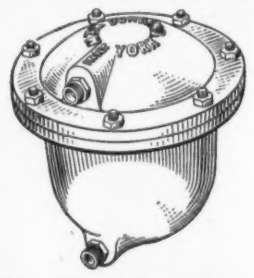
Among recent dealers lining up with the Stull Company are J. E. Nickerson, Fennville, Mich., and L. Van Allsburg, Coopersville. In Grand Rapids new agencies are Domestic Appliance Corporation, Mueller & DeVos, Taylor Radio Co., Enterprise Electric Co., Meyering Electric Co., Lighting Fixture Studios.

A CHANCE TO BEAT A POOR RECORD

IN its efforts to speed up the publication of census figures this year, the Bureau of the Census has been doing a little checking of past performances. Realizing that to be of real use, the Census of Manufactures Reports must be timely, Edward R. Dewey, chief of the business organization service, points out that when the 1927 Census of Manufactures was taken, the refrigeration industry took fifty-five weeks to send in its reports. Of course, not all manufacturers were dilatory, but enough of them were behind to hold up publication for that length of time.

Questionnaires already have been sent out by the Bureau, and all manufacturers are urged to fill them out and send them in at the earliest possible moment. Only by doing this can they obtain early publication of the figures.

Buhring Water Purifiers for Electric Coolers



Easily connected to all types
Requires minimum attention

GUARANTEED
to remove taste, color and odor.
Will operate under any water pressure.

For Information Write

BUHRING WATER PURIFYING CO.
40 Murray St., New York City
Representatives
Allen Filter Co., Chicago, Ill.
Boston Filter Co., Boston, Mass.

For Automatic Refrigeration Manufacturers

Whatever you require in copper, brass, bronze, or copper alloys, we are prepared to furnish on contract either parts or sub-assemblies ready for installation in your unit. Boilers, compression nuts, filters, floatballs, condensers, special nipples, bellows and thermostats, and a large variety of other standard parts.
Let us quote on your requirements.

BRIDGEPORT BRASS CO.
General Offices and Plant
Bridgeport, Conn.
Offices in Principal Cities
"Bridgeport" BRASS TRADE MARK CO.

Recently Recorded Improvements Made

ISSUED MARCH 25

1,751,544—MERCURY SWITCH. Paul K. Cramblet, Milwaukee, Wis., assignor to Time-O-Stat Controls Company, Elkhart, Ind., a Corporation of Maryland. Filed Nov. 24, 1928. Serial No. 321,568 20 Claims. (Cl. 200—152.)

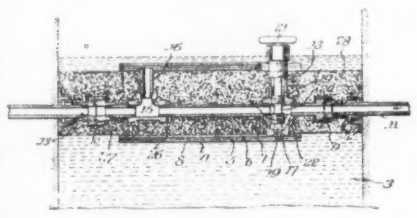
1. A mercury switch comprising an outer envelope, an inner protective tube of arc resistant material, and means for supporting the tube on the envelope, and including a supporting ring of glass interposed between the tube and the envelope and a body of cement covering the ring and adhering thereto and to the tube and envelope.

1,751,558—BOTTLE COOLER. John M. Schilling, Lima, Ohio. Filed September 22, 1928. Serial No. 307,645. 19 Claims. (Cl. 312—36.)

1. In a bottle cooler, the combination of a casing, rotary bottle carriers, a framework supporting said carriers in substantially vertical planes for rotary movement in said casing, riding tracks around said carriers for holding bottles therein, and guide tracks in planes substantially parallel with the planes of said riding tracks for engaging bottles in said carriers to hold said bottles on said riding tracks, said framework including laterally extending bars supporting said tracks and legs extending below said tracks and below the lowermost one of said supporting bars to rest upon the bottom of said casing and holding said tracks a substantial distance above the bottom of said casing constituting the lower part of said casing a refuse receptacle below said tracks, said tracks having substantial clearance spaces around them permitting foreign matter to pass freely into said refuse receptacle.

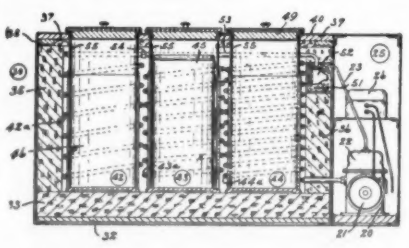
1,751,617 — ICE-HARVESTING DEVICE. George B. Bright, Detroit, Mich. Filed July 15, 1929. Serial No. 378,491. 8 Claims. (Cl. 62—108.)

1,751,623—COOLING DEVICE. French E. Dennison, Beloit, Wis., assignor to National Refrigeration Corporation, Beloit, Wis., a Corporation of Delaware. Filed Dec. 17, 1926. Serial No. 155,433. 7 Claims. (Cl. 257—201.)



5. The combination with a compartment adapted to contain a liquid to be cooled, of a refrigerant line extending through said liquid. a double wall cylinder within the compartment and surrounding said line, the two walls of said cylinder forming a chamber therebetween, means for circulating refrigerant from said line through said chamber, means for by-passing said refrigerant past said chamber and means for insulating said last means from said liquid.

1,751,697 — REFRIGERATING APPARATUS. Harry B. Hull, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corporation, a Corporation of Delaware. Filed Nov. 6, 1924. Serial No. 748,258. 2 Claims. (Cl. 257—208.)



1. Refrigerating apparatus comprising in combination a plurality of compartments to be cooled, and means for refrigerating all of the compartments to substantially the same temperature including an individual refrigerating element associated with each compartment, said elements being connected in series to form a single conduit, and means for supplying refrigerant to one end of the conduit, the refrigerating surface of the elements being increased along the series in the direction of flow of refrigerant from said supply means.

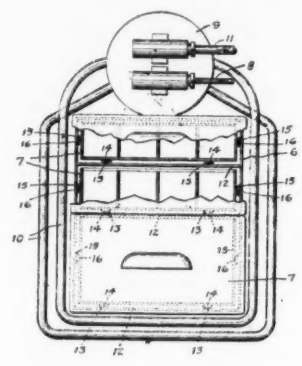
1,751,805—PROCESS OF VENTILATING. Walter L. Fleisher, New York, N. Y., assignor to Cooling and Air Conditioning Corporation, New York, N. Y., a Corporation of New York. Filed Jan. 13, 1928. Serial No. 246,470. 18 Claims. (Cl. 236—44.)

3. A ventilating system comprising, in combination, means for supplying air to an enclosure, means for conditioning said air, means for supplying fresh air and return air to the conditioning apparatus, means differentially responsive to the condition of the fresh air and of the return air for determining the proportions of fresh air and return air for conditioning.

1,751,806—VENTILATING SYSTEM. Walter L. Fleisher, New York, N. Y., assignor to The Cooling & Air Conditioning Corporation, New York, N. Y., a Corporation of New York. Filed Feb. 8, 1928. Serial No. 252,759. 15 Claims. (Cl. 236—44.)

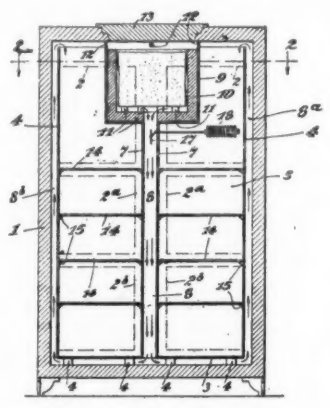
1. In a ventilating system, in combination, means for admitting external air to said room, means for maintaining a standard of humidity within a room, means responsive to external temperature conditions for varying said standard, and means for imposing a minimum and maximum limit upon such variation.

1,751,899—COOLING UNIT. Harry A. Whitfield, Arlington, N. J. Filed July 30, 1927. Serial No. 209,418. 6 Claims. (Cl. 62—111.)



1. In a cooling unit for a refrigerating machine, means for chilling the unit, drawer supporting means located within the unit, drawers carried by said supporting means, and means co-operating with said supporting means and said drawers for preventing said drawers from freezing to said supporting means, said means including a carrying medium for a fluid having a low freezing point.

1,752,015 — REFRIGERATING APPARATUS AND METHOD. James W. Martin, Jr., Tuckahoe, N. Y., assignor, by mesne assignments, to Dryice Equipment Corporation, New York, N. Y., a Corporation of Delaware. Filed June 15, 1926. Serial No. 116,103. 24 Claims. (Cl. 62—92.)



1. The method of refrigerating the interior of an insulated container, which includes evaporating therein a solid substance which evaporates without any intermediate liquid state, evolves hundreds of times its volume of gas much heavier than air, and which has its evaporation rate accelerated according to the percentage of air in bathing contact therewith; guiding and confining a circuit of downflow of the gas evaporated from said solid and upflow thereof through a counterbalancing column while conducting heat from refrigerated space into said gas and utilizing the upflow column as insulation for a wall or walls of said refrigerated space.

1,752,059 — RECORDING INSTRUMENT. Edgar H. Bristol, Foxboro, Mass., assignor to The Foxboro Company, Foxboro, Mass., a Corporation of Massachusetts. Filed April 11, 1928. Serial No. 269,258. 3 Claims. (Cl. 234—1.)

1,752,116 — COOLING-FLUID CONTROL. Herbert A. Smith, Bethlehem, Pa., assignor to Sarco Company, Inc., a Corporation of New York. Filed March 11, 1926. Serial No. 93,862. 1 Claim. (Cl. 236—34.)

1,752,276 — REFRIGERATING APPARATUS AND METHOD. James W. Martin, Jr., Yonkers, N. Y., assignor to Dryice Equipment Corporation, New York, N. Y., a Corporation of Delaware. Filed Dec. 8, 1928. Serial No. 324,639. 20 Claims. (Cl. 62—92.)

1. A refrigerating apparatus comprising a receptacle, a container for solidified carbon dioxide in the upper portion thereof, a downflow conduit therefrom and an upflow outlet conduit from the latter; the container being closed against inlet of air and the upflow outlet discharging outside the apparatus.

1,752,277 — REFRIGERATIVE HEAT-INSULATING APPARATUS AND METHOD. James W. Martin, Jr., Yonkers, N. Y., assignor to Dryice Equipment Corporation, New York, N. Y., a Corporation of Delaware. Filed Mar. 2, 1929. Serial No. 343,988. 9 Claims. (Cl. 62—92.)

1. The method of preserving or improving the insulating quality of the walls of a container, which includes by absorbing heat and sublimating solid carbon dioxide within said container, and confining and guiding circulation of the cold freshly evolved carbon dioxide gas in intimate contact with an inner surface of said walls.

ISSUED APRIL 1

R-17,635 — REFRIGERATING APPARATUS. Edward T. Williams, Pelham Manor, N. Y., assignor to Fedders Manufacturing Company, Inc., Buffalo, N. Y., a Corporation of New York. Filed April 22, 1929. Serial No. 357,255. Original No. 1,645,314, dated Oct. 11, 1927, Serial No. 42,866, filed July 11, 1925. 34 Claims. (Cl. 62—126.)

32. In a mechanical refrigerating system, a stationarily mounted evaporator having an outlet, and an inlet means for admitting liquid refrigerant and oil, a fluid disposed within said evaporator comprising liquid refrigerant and oil of relatively different specific gravities, and automatic control means for maintaining a substantially constant quantity of refrigerant and oil in a constant proportion within the evaporator.

1,752,439—SLEEVE VALVE. Chester W. Larner, Philadelphia, Pa., assignor to I. P. Morris and De La Vergne, Inc., a Corporation of Delaware. Filed Oct. 14, 1926. Serial No. 141,452. 11 Claims. (Cl. 137—139.)

1,752,553—REFRIGERATING CABINET. Henry C. Folger, Waltham, Mass., assignor, by mesne assignments, to Waltham System, Inc., Waverley, Mass., a Corporation of Massachusetts. Filed June 17, 1927. Serial No. 199,588. 2 Claims. (Cl. 62—75.)

1. A rack for introduction into a refrigerator compartment to support an ice cream can and refrigerating cartridges of triangular prism form, comprising transversely related base members, each adapted to extend between diagonally opposite corners of the compartment, uprights rising from the base members, adjacent to the corners and adapted to receive the can between them, and rests projecting from the uprights toward the corners and adapted to receive the cartridges, said uprights being adapted to hold the cartridges in the corners and spaced from the can.

1,752,582 — ICE-CREAM FREEZER. Charles Taylor, Buffalo, N. Y., assignor to Taylor Freezer Corporation, Beloit, Wis., a Corporation of Delaware. Filed Dec. 16, 1926. Serial No. 155,281. 11 Claims. (Cl. 259—102.)

1,753,024—VARIABLE PRESSURE OR RELIEF VALVE. Fredrich J. Rode, Chicago, Ill., assignor to Marquette Tool & Mfg. Company, Chicago, Ill., a Corporation of Illinois. Filed April 25, 1927. Serial No. 186,272. 4 Claims. (Cl. 137—53.)

1,753,042—REFRIGERATION COIL. Charles Mandell Brenner, Shreveport, La. Filed April 12, 1929. Serial No. 354,633. 6 Claims. (Cl. 62—95.)

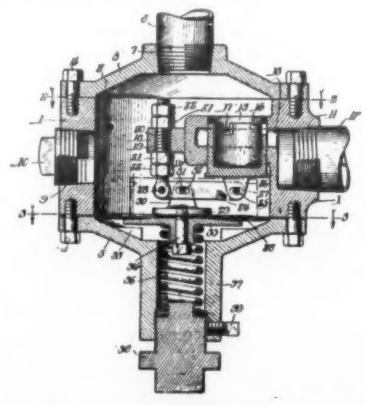
1. A combination with a refrigerating unit including a boiler wifth refrigerant containing tubes depending therefrom, of a drip protector for said tubes mounted between said boiler and the upper portions of said tubes, and spanning the space between the tubes and projecting over and beyond them.

ISSUED APRIL 8

1,753,236 — LIQUID-COOLING SYSTEM. David H. Ebinger, Columbus, Ohio, assignor to The D. A. Ebinger Sanitary Manufacturing Company, Columbus, Ohio, a Corporation of Ohio. Filed Nov. 11, 1927. Serial No. 232,698. 4 Claims. (Cl. 62—141.)

1. In a cooling device, a casing open at one end, a detachable closure for the open end of said casing, a cooling unit carried by said closure and situated longitudinally within said casing, the longitudinal axis of said cooling unit being situated above the longitudinal axis of said casing, a liquid intake in the top of said casing above said cooling unit, and a liquid outlet at the bottom of said casing below said cooling unit, said intake and outlet being disposed in substantially registering vertical planes.

1,753,536—AUTOMATIC PRESSURE-CONTROL VALVE. John C. Scovel, Jr., Chicago, Ill., assignor to The Creamery Package Mfg. Company, Chicago, Ill., a Corporation of Illinois. Filed July 6, 1926. Serial No. 120,592. 3 Claims. (Cl. 137—153.)

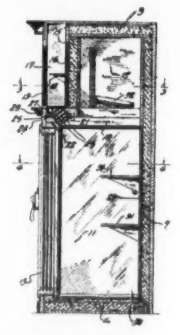


3. A device for automatically controlling evaporation pressure in a refrigerant evaporating container, comprising a casing enclosing a chamber having an open inlet adapted for open communication with said container, a shelf mounted on the wall of said casing within said chamber, said shelf having a transverse valve way opening at both ends into said chamber and having an inner peripheral channel formed in said valve way, said channel opening outwardly of said casing to form an outlet from said chamber, a tubular slide valve operatively positioned in said valve way and controlling said channel, said tubular valve having endward notches adapted to open and close communication between said chamber and said channel with the movement of said valve member, said valve having constant lateral bearing in said way to close communication to said channel otherwise than through said notches, and means for operating said valve member responsive to the pressure in said chamber, whereby said passage is progressively closed by a lowering pressure in said chamber and is progressively opened by a rising pressure in said chamber.

1,753,567 — REFRIGERATOR-DOOR CONSTRUCTION. Harvey D. Geyer, Dayton, Ohio, assignor to The Inland Manufacturing Company, Dayton, Ohio, a Corporation of Delaware. Filed March 21, 1927. Serial No. 176,871. 5 Claims. (Cl. 20—35.)

1. A heat insulating door comprising: a one-piece molded bituminous composition frame having a peripheral main flange integral therewith and forming a shoulder adapted to abut against the door opening, a peripherally extending gasket groove molded in the face of said shoulder, and an endless gasket of elastic material stretched around said frame and lying upon said shoulder and having a projecting portion seated in said groove, whereby said gasket is retained in place.

1,753,594—FLORAL CASE. Jayson K. Bond, Milwaukee, Wis., assignor to Federal Asbestos & Cork Insulation Co., Milwaukee, Wis., a Corporation of Wisconsin. Filed June 15, 1928. Serial No. 285,751. 2 Claims. (Cl. 312—116.)



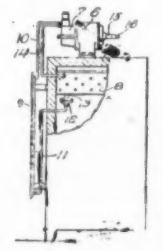
1. A refrigerated show case, comprising bottom, top, rear and side walls, glazed doors and windows closing the front of said case, a vertical wall inwardly of the front of the case and extending downwardly from the top and terminating intermediate the top and bottom, said wall defining an upper forward compartment, the top of the same being open, and a main refrigerated compartment, and an angularly disposed multi-layered window between said compartments, the front of the case having an elongated rail thereadjacent, the arrangement being adapted to permit the mounting of an incandescent bulb within the upper compartment between said rail and the window for illuminating both compartments.

1,753,676 — TEMPERATURE REGULATOR. Lyman F. Whitney, Boston, Mass., assignor, by mesne assignments, to Stator Refrigeration, Inc., a Corporation of Delaware. Filed March 10, 1927. Serial No. 174,212. 9 Claims. (Cl. 236—1.)

1,753,796 — REFRIGERATION. Thomas J. Litle, Jr., Detroit, Mich., assignor to Copeland Products, Inc., Detroit, Mich., a Corporation of Michigan. Filed June 17, 1926. Serial No. 116,618. 17 Claims. (Cl. 62—95.)

6. In combination, a refrigerator cabinet, and an expansion element therein co-operating with the walls thereof to form a freezing chamber, sealed against air circulation, between said element and certain walls of said cabinet.

1,753,797—REFRIGERATING MECHANISM. Thomas J. Litle, Jr., Indianapolis, Ind., assignor to Copeland Products, Inc., Detroit, Mich., a Corporation of Michigan. Original application filed Sept. 18, 1926, Serial No. 136,357. Divided and this application filed April 10, 1929. Serial No. 353,910. 8 Claims. (Cl. 62—115.)



1. In combination, a refrigerating system comprising a compressor, condenser and evaporator operatively connected together, a motor for driving said compressor, a thermostatically operated switch in series with said motor for controlling the operation thereof in accordance with the demands of said system, an inlet check valve for said compressor, a magnet positioned to open

in the Art of Refrigeration

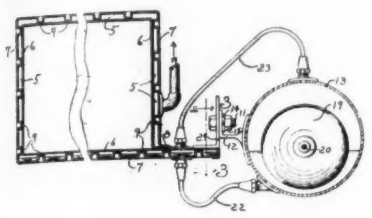
said check valve when energized, and switching means operable at will to place either said magnet or said thermostatically operated switch in series with said motor.

1,753,802 — REFRIGERATING APPARATUS. Glenn Muffly, Detroit, Mich., assignor to Copeland Products, Inc., Detroit, Mich., a Corporation of Michigan. Filed March 3, 1927. Serial No. 172,273. 2 Claims. (Cl. 62—8.)

1. In combination, a refrigerant container and an expansion chamber, a passage connecting the two, a bolt extending through apertures in co-operating brackets on the chamber and container, at least one of said apertures being elongated, and means for securing the bolt in the apertures to hold the chamber and container in adjustable assembly.

1,753,856—EVAPORATOR FOR REFRIGERATING PLANTS. Erich Freundlich, Dusseldorf-Oberkassel, Germany. Filed Sept. 7, 1928, Serial No. 304,500, and in Germany March 17, 1928. 9 Claims. (Cl. 62—95.)

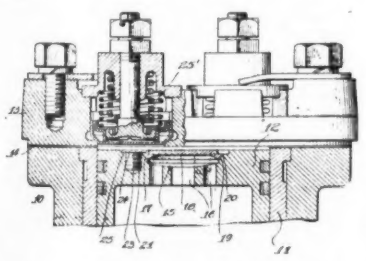
1. Vaporizer for refrigerating machines comprising a vertical head for the liquid refrigerating agent, a horizontal head for the vapors and a plurality of superposed substantially horizontally disposed pipes arranged in U-shaped coils bent upwardly at one end, the horizontally disposed ends of said coils terminating in said vertical head and the upwardly bent ends terminating in said horizontal head.



1,753,896 — THERMOINSULATING STRUCTURE AND METHOD OF MANUFACTURING THE SAME. Harvey B. Lindsay, Evanston, Ill., assignor to Dry Zero Corporation, Wilmington, Del., a Corporation of Delaware. Filed Oct. 27, 1927. Serial No. 229,254. 2 Claims. (Cl. 144—309.)

1. The method of producing a hermetically sealed joint between flatwise opposed surfaces of elements to be united by an adhesive, one of the elements being flexible and the other a solid indentable body, which consists in rolling a corrugation in the flexible element and into the flatwise opposed portion of said solid indentable body while said elements are flatwise opposed with adhesive therebetween.

1,753,922—COMPRESSOR VALVE. Frederick R. Erbach, Detroit, Mich., assignor to Kelvinator Corporation, Detroit, Mich., a Corporation of Michigan. Filed Dec. 16, 1927. Serial No. 240,409. 2 Claims. (Cl. 230—221.)



1. In a compressor, a piston provided with a valve port in the face thereof, a relatively movable disk adapted to close said port, and a plurality of screw threaded members secured to said piston in regularly spaced relation about said port and adapted to be engaged by said disk when said disk moves from said port.

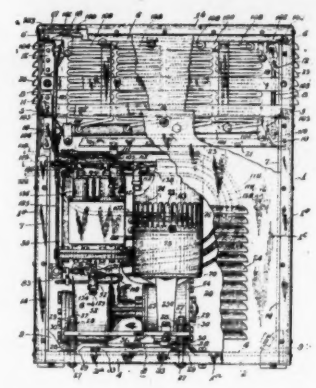
1,753,940—ICE BLOCK AND MOLD FOR FORMING SAME. Sadie B. Reed, New York, N. Y. Filed Jan. 21, 1929. Serial No. 333,810. 8 Claims. (Cl. 62—111.)

1,753,943—REFRIGERATING APPARATUS. John R. Replogle, Detroit, Mich., assignor, by mesne assignments, to Kelvinator Corporation, Detroit, Mich., a Corporation of Michigan. Filed Sept. 15, 1926. Serial No. 135,499. 4 Claims. (Cl. 62—95.)

1. In a refrigerating apparatus, a heat transfer structure comprising a housing provided with air inlet and outlet openings, a vaporizer secured within said housing and including a plurality of depending pipe loops, mechanical means for circulating air through said housing, and converging air deflectors positioned on opposite sides of said housing adapted to constrict the air passage therethrough adjacent said pipe loops.

1,753,944 — AIR-COOLED REFRIGERATION APPARATUS. John R. Replogle, Detroit, Mich., assignor, by mesne assignments, to Kelvinator Corporation, Detroit, Mich., a Corporation of Michigan. Filed Oct. 26, 1926. Serial No. 144,249. 6 Claims. (Cl. 62—115.)

1. In refrigeration apparatus, a casing, a partition therein dividing said casing into upper and lower compartments, an aperture in said partition, a motor having a virtically arranged shaft and a compressor geared to the lower end of said shaft, all located in the lower of said compartments; coils of pipe forming a refrigerant condenser ar-

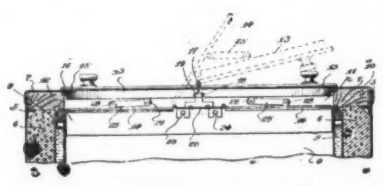


ranged in the upper of said compartments, a fan connected to the upper end of said shaft for directing a current of air from the lower of said compartments through said aperture and around said coils of pipe.

1,753,945 — THERMOSTAT CONTROLLER. John R. Replogle, Detroit, Mich., assignor to Kelvinator Corporation, Detroit, Mich., a Corporation of Michigan. Filed Aug. 22, 1927. Serial No. 214,543. 3 Claims. (Cl. 200—138.)

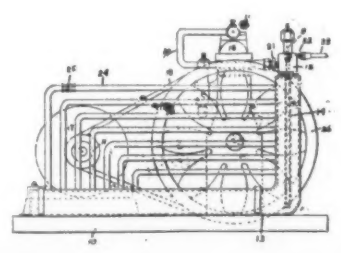
1. In an automatically actuated switch mechanism, a stationary contact member, a heat responsive member, having one end rigidly secured, a contact member carried by the free end of said heat responsive member, said contact members being connected with a source of electrical energy, magnetic means for assisting the effect of heat on said heat responsive member for causing engagement of said contact members, said heat responsive member and said magnetic means being independently adjustable to regulate their effect upon the engagement of said contact members.

1,753,946 — LID FOR REFRIGERATING CABINETS. John R. Replogle, Detroit, Mich., assignor to Kelvinator Corporation, Detroit, Mich., a Corporation of Michigan. Filed Aug. 25, 1927. Serial No. 215,311. 1 Claim. (Cl. 220—29.)



In a refrigerated food storage cabinet having an exterior wall and an interior food storage chamber each of which is provided with an opening to permit access to the interior of the food chamber, a cover structure comprising a primary cover for the opening through the exterior wall, a secondary cover for the opening in the food compartment, said primary and secondary covers being hinged to the exterior wall and interior food storage chamber, respectively, and a link pivotally connected to both the primary and secondary covers whereby both covers move in unison in the same direction.

1,753,951—CONDENSER FOR REFRIGERATING APPARATUS. Charles C. Spreen, Detroit, Mich., assignor to Kelvinator Corporation, Detroit, Mich., a Corporation of Michigan. Filed June 4, 1927. Serial No. 196,409. 4 Claims. (Cl. 257—39.)



1. A condenser, for refrigerating apparatus, comprising a manifold having a base portion and an upstanding portion, tube sections extending intermediate said manifold portions, and an outlet conduit extending into said upstanding manifold portion.

1,753,952—REFRIGERATOR DOOR. Charles C. Spreen, Detroit, Mich., assignor to Kelvinator Corporation, Detroit, Mich., a Corporation of Michigan. Filed June 8, 1927. Serial No. 197,248. 3 Claims. (Cl. 20—35.)

1. A refrigerator door comprising a plurality of layers of plywood, a layer of heat insulating material interposed between certain of said layers, and a layer of relatively soft rubber completely enclosing said plywood and insulating material, said layer of rubber being provided with an integral raised bead member adapted to serve as a door gasket.

1,753,953—CONDENSER. Charles C. Spreen, Detroit, Mich., assignor to Kelvinator Corporation, Detroit, Mich., a Corporation of Michigan. Filed Aug. 31, 1927. Serial No. 216,594. 4 Claims. (Cl. 257—39.)

1. In a heat exchange apparatus for a mechanical refrigerating system, a condenser, and means for causing cooling air to follow a sinuous path of varying cross-sectional area disposed in heat transfer relation to said condenser.

MILWAUKEE SALESMEN HAVE NEW SELLING IDEA

Milwaukee, Wis.—A group of salesmen of one of the large refrigerator concerns here is using the following method to secure orders and prospects for mechanical units with good success. It works in this order:

The installation records of three, six, nine and twelve months back are inspected. The salesman lists the name of a customer, who is then visited and a testimonial secured. The immediate district for a block on either side is that salesman's territory.

He calls on Mrs. Jones, perhaps next door. Mrs. Jones knows the Smiths who have a mechanical refrigerator. Yes, she has seen it and thinks it a good one. Can she buy one herself just now? Perhaps yes, and perhaps no. At any rate, she reads the testimonial and the salesman makes record of the data in the case. If the lady has a mechanical refrigerator, she is not called on again. Neighbors without units are then seen.

The idea is that some neighbor has a mechanical refrigerator with which she is pleased. The psychology of the matter is apparent when it is remembered that one neighbor likes to equal or surpass the other in her possessions or attainments.

Perhaps the lady in the next block doesn't know Mrs. Smith. In that case she has but to walk a few feet to satisfy herself that the salesman is telling the truth, which offer is seldom accepted. At any rate, many sales are made and prospects secured through this method.

SIMPLER METHODS FOR COMPUTING CALCULATIONS

ELECTRICAL calculations are reduced to a simple series of rules, involving only ordinary arithmetic by Professor T. O'Conor Sloane in his latest work, the twenty-third revised and enlarged edition of "Arithmetic of Electricity." To make his publication more understandable, Professor Sloane has illustrated each rule by one or more practical problems, with detailed solution for each one.

The book, containing 230 pages, is divided into eighteen chapters. Subjects discussed in chapters include Ohm's law, resistance and conductance, potential difference, circular mils, special systems, work and energy, batteries, electro-magnets, dynamos and motors, capacity, inductance, alternating current, heating effect, and units of measure. Three chapters are devoted to a demonstration of the rules, notations in powers of ten and a collection of tables needed for the operations and problems given in the text.

For convenience the book is of pocket size and has a cloth bound cover. The book is printed in large, readable type, and all rules are in bold-face type. Price $1.50.

NOTE: Orders for the above may be sent to ELECTRIC REFRIGERATION NEWS. Remittance must accompany order.

FRIGIDAIRE DEALERS MEET IN GRAND RAPIDS

Grand Rapids, Mich.—On Wednesday, April 16, the spring regional meeting of the Frigidaire distributors and agents for western Michigan was held at the Hotel Morton.

F. C. Matthews & Co. are distributors here, and both Mr. Matthews and C. L. Winters, general sales manager, for the Matthews company, were hosts to the large gathering.

The primary object of the meeting was to give an educational demonstration to all agents and salesmen on the new Multi-Cold Frigidaire. H. H. Kennedy, regional manager from Dayton, was in charge of the meeting. E. F. Moore of the educational department and regional director for New York, together with Otto Endres, zone manager, assisted Mr. Kennedy and gave demonstrations and talks to the large gathering.

Supervisors attending the meeting were: C. L. Winter, R. W. Hotchkiss, Harold McCormick, J. W. Cooper, David Noggles, W. D. Seeger and A. W. Onweller. Dealers came in from Big Rapids, Cheboygan, Cadillac, Traverse City, Benton Harbor, Hastings, Petoskey, Albion, Niles, Sturgis, Three Rivers, Holland and many other points. The fourteen city dealers were all represented.

MUSIC COMPANY ENTERS IDAHO FIELD

Salt Lake City, Utah—Jack Tenny, sales manager for Karl Winter, Copeland distributor in Utah and southern Idaho, has just appointed the Sampson Music Company, of Boise, Idaho, subdistributors for southern Idaho.

The Sampson Music Company has a chain of ten music stores in Boise, Welser, Nampa, Twin Falls, Payette, Pocatello, Gooding and Emmett. The company recently absorbed the H. C. Cooke Electric Company of Boise, former Frigidaire dealers.

C. B. Sampson, the founder of the business, is known all over the country for the highways which he has marked as the Sampson Trails in Idaho. W. E. Patterson is general manager of the chain. Larry Giroux, formerly sales manager of Dinwoody Furniture Company, Salt Lake City, Kelvinator distributors, has joined the company as refrigeration sales manager.

NEW PRESSURE SWITCH FOR COMPRESSORS

THE Allen-Bradley Company, 286 Greenfield Ave., Milwaukee, Wisconsin, announce the new Bulletin 830 pressure switch for starting and stopping compressor and pump motors.

The design of the pressure switch follows radically new lines and is extremely compact. The unit is about the size of a small outlet box.

The size B pressure switch is made in four forms in various combinations with or without overload breakers, disconnect switches and fuse clips. This unit is rated at 1 H. P., 110-220 volts for direct current and 1 H. P., 110 volts and 2 H. P., 220 volts, for alternating current.

The size C switch is rated up to five horsepower. For larger ratings, the size B pressure switch is used as a pilot control for magnetic starters of any rating.

N. Y. KELVINATOR ADDS 7 NEW DEALERS

New York, N. Y.—Seven new dealers have taken on representation of Kelvinator in the nearby territory. These dealers which were secured by G. Golliher, wholesale representative of the New York Branch are: C. H. Miller & Co., Pompton Lakes, N. J.; Emery Radio Shop, Ramsey, N. J.; Hadeler Electrical Contractors, Pearl River, N. Y., and the Maytag Nyack Co., Nyack, N. Y.

New dealer appointments in the Staten Island territory are: Gerst Sales Corp., Great Kills; E. Cutting & Sons Furniture Co., Tottenville, and J. DeMoll Appliance Co., Rosebank.

SAYRE GIVES RADIO TALK FROM NEW YORK

New York, N. Y.—J. S. Sayre, sales manager of the Kelvinator Corporation, was "on the air" at 11:00 A. M. April 17, broadcasting a talk on the features of the new domestic refrigerators. His talk was made in connection with the Forecast Radio School of Cookery, conducted by Mrs. Goudiss in New York, over the blue network of the National Broadcasting Company. Mr. Sayre concluded his talk with an announcement of the result of the recent nation-wide fast freezing test made by Kelvinator dealers.

NEW COPELAND DEALER SELLS 11 MACHINES

Milwaukee, Wis.—The J. Kornely Hardware Co., Third and North Ave., which recently acquired the Copeland agency, reports the sale of eleven units in recent weeks. Mr. Kornely reports increased interest in the new Copeland line. He is well pleased with the record set so far and looks forward to increased business as the summer approaches.

HYDRATOR WEEK BOOSTS SHREVEPORT SALES

Shreveport, La.—By means of a sales campaign in which Frigidaire hydrators were featured, the Automatic Refrigeration Company, of Shreveport, distributors, a total of forty-seven household units were sold, M. R. Harrelson, sales manager, announced. The campaign extended from March 13 to March 22.

LIQUID COOLER EXPANDS FACILITIES

Detroit, Mich.—The Liquid Cooler Corporation, manufacturers of Temprite coolers, reports a volume of business received during the first three months of the year as being considerably in excess of anticipated production schedules.

Volume production of Temprite coolers has only been under way since the first of the year. To date, refrigeration distributors in practically every state and in several foreign countries, have placed orders for Temprite cooling units. During this short period of actual production, between fifty and seventy-five distributors have been established.

These distributors are located in practically all the important key cities in the United States. Every one of them reports active interest on the part of plant, office building and factory owners for water cooling equipment and have placed bids on equipment running into the thousands of units.

Because of this volume of early season business, the Liquid Cooler Corporation has taken over an entire additional floor in its building at 6527 Russell Street for manufacturing quarters. The increased manufacturing facilities will enable the company to handle a large volume of business with orders being filled promptly.

DEALERS CLOSE TWO APARTMENT JOBS

Milwaukee, Wis.—The Milwaukee Gas Light Co., dealers in Electrolux refrigerators, has recently installed eight EL3 units in the A. F. John Apartments, 253 27th St.

Frigidaire has been selected for the installation in the new Sovereign Apartments, 18th and Wisconsin Ave., which are now under construction. This building, to cost $1,250,000, is one of the largest apartment houses in the city. A total of 95 Frigidaires will be installed by the Lindsay Automatic Refrigerator Co., at a cost to exceed $10,000.

PATENTS
Searches, reports, opinions by a Specialist in REFRIGERATION
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Solicitor of Patents - Refrigeration Engineer
342 MADISON AVE. NEW YORK

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CONDENSERS
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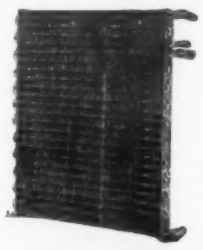

With Every Unit
FIN AND TUBE SAME SOLID PIECE OF MATERIAL
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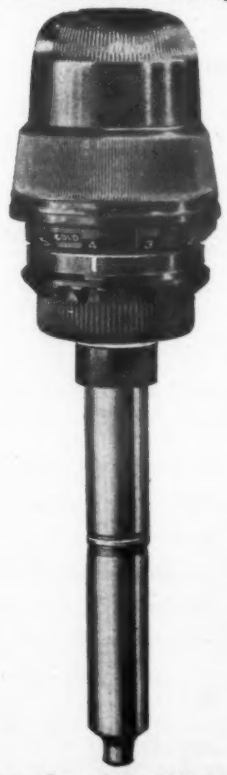
NEW ADJUSTABLE RANCO CONTROL
Provides an Ideal Temperature Range on Household Refrigerator



The Ranco Control for 1930 has many refinements and basic improvements which make it more than ever the ideal control for the modern household refrigerator.
Write for Information
The Automatic Reclosing Circuit Breaker Co.
COLUMBUS, OHIO U. S. A.

LITERATURE OF MANUFACTURERS

Catalogues, bulletins and other material recently issued.

Manufacturers are requested to send copies of new trade literature to Electric Refrigeration News.

Freezel

The new line offered by the Freezel Corporation, Gardner, Mass., has five cabinet models with capacities ranging from 5 to 8 cu. ft. Four of the cabinets are by Seeger. Water cooler, chill tray and electric lighted interior are features in the Freezel De Luxe line. All models are illustrated in a broadside recently sent out by the Freezel Corp. This year, Freezel is manufacturing three condensing units for installation in any of the cabinet models.

Sitka Spruce

Two interesting booklets have been received from the C. D. Johnson Lumber Co., Portland, Ore., describing the manufacture of Sitka spruce, which is used in the production of various refrigerators. One of the booklets shows the many uses of the Sitka spruce, while the other describes the operations through which the timber must pass before it finally reaches the finished board stage.

COPELAND CLOSES SERIES OF DEALER CONVENTIONS

Mt. Clemens, Mich.—Sales efforts in the Central West by Copeland Products, Inc., have been stimulated through a series of distributor and dealer conventions recently concluded.

Meetings were held in Chicago, Milwaukee, South Bend and Des Moines, under the direction of Harry T. Kessler, vice-president of the Copeland Refrigeration Company of Chicago, subsidiary of Copeland Products, Inc. Attendance in each case, according to Mr. Kessler, was more than satisfactory, and enthusiasm ran high as details of the 1930 Copeland sales campaign were revealed.

Among those who participated in the various programs were C. W. Hadden, of the factory executive staff; Marion R. Moore, of the commercial sales promotion staff, and W. W. Sparbeck, factory representative. At the Chicago meeting, a service convention and school was conducted by Mr. Moore and F. M. Carry, service manager of the Chicago factory branch.

Distributor and dealer committments showed a substantial increase over 1929, according to Kessler, and every indication points to 1930 as Copeland's biggest year in the Chicago territory.

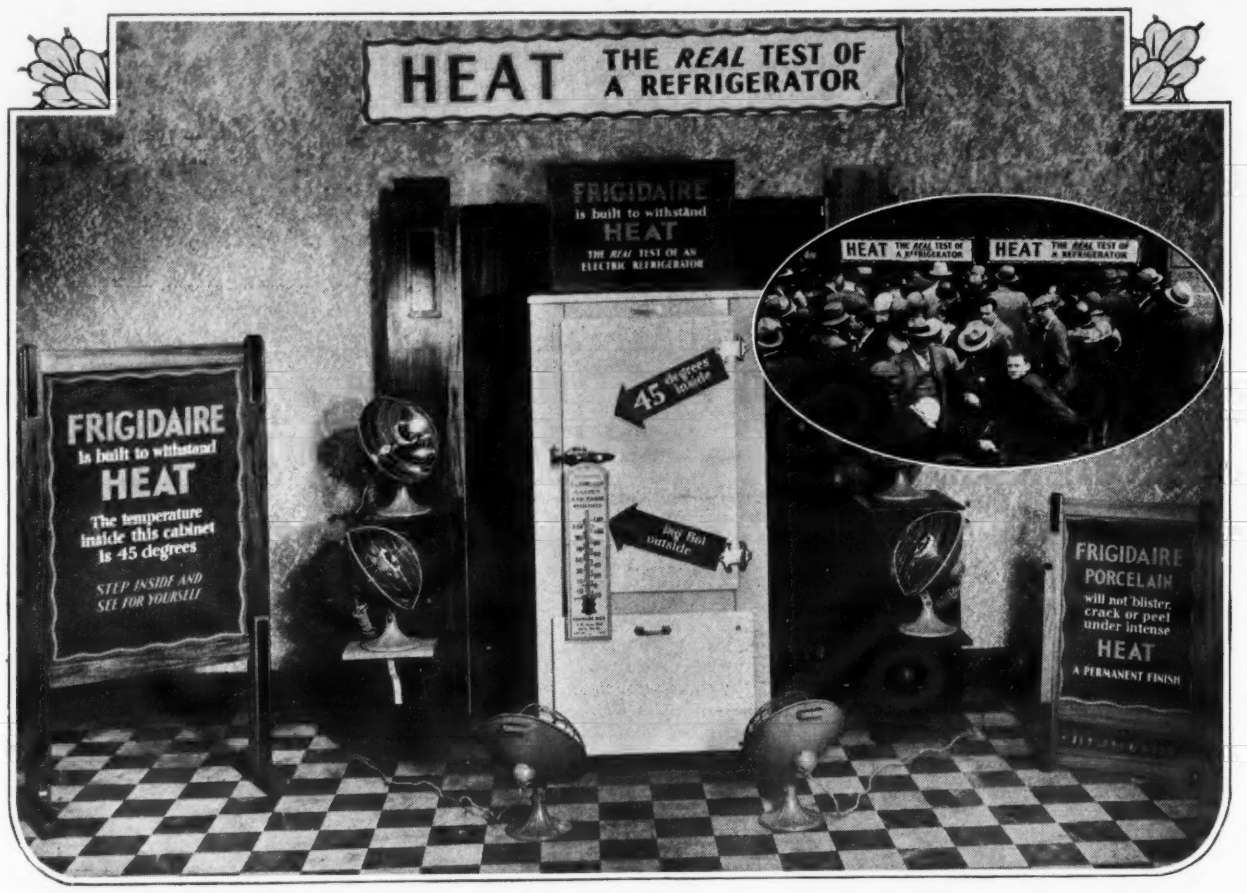
HOLLINGER TRANSFERRED TO DETROIT

Detroit, Mich.—Holt Hollinger, who succeeded Earl Lines as advertising manager of the Leonard Refrigerator Co. at Grand Rapids, Mich., has moved to Detroit and is now manager of cooperative advertising, a division of the Kelvinator advertising department. Mr. Hollinger was married just before coming to Detroit.

TWO NEW DEALERS FOR SAVANNAH

Savannah, Ga.—Two new electric refrigerator dealers have been named in Savannah. They are the Electric Refrigerating Co., 229 E. Broughton St., Kelvinator dealer, and the Hazelhurst Hardware Co., 310 West Broughton St., Ice-O-Matic dealer.

Heating the Refrigerator



TYPICAL window display which Frigidaire dealers everywhere are setting up for the big Frigidaire campaign now under way. A battery of electric heaters pour forth their blistering heat, which reaches a temperature near the 120 mark. Simultaneously, the Frigidaire is going right along in its job of freezing ice cubes. The displays in their torrid atmosphere are attracting much attention..

REQUESTS FOR INFORMATION

Readers who can be of assistance in furnishing correct answers to inquiries, or who can supply additional information, are invited to address Electric Refrigeration News, mentioning query number.

Export Activity

Query No. 361—"While it is not an electrically operated refrigeration unit, the 'Icyball' manufactured by the Crosley Radio Corp., Cincinnati, meets the approval of one of our distributors abroad.

"This unit, however, is represented in the district from which the inquiry comes and we wonder if you know of any other unit similiarly operated, the manufacturer of which we could approach for export activity."

Note—The Perfection Stove Co., 7609 Platt Ave., Cleveland, Ohio, makes the Superfex refrigerator, in which the refrigerating cycle is actuated by the use of a kerosene burner.—Editor.

Socold

Query No. 362—"While in a neighboring city a few weeks ago, I was induced to purchase a Socold refrigerator, paying cash for the same and which as yet has not been delivered, but which is on the way.

"I sent a letter to the address given by the Socold people in order to obtain service but it has been returned and now to my chagrin I learn that the Socold company has been out of business for some time and here I am stuck with a machine that I cannot get service on.

"Do you know who handles this machine or did handle it somewhere near Staten Island, N. Y., as I want to use the machine or have it placed in operation if possible. Can you send me the address of anyone that will service it for me, if you are unable to give me the dealer's name, that is the former dealer's name."

Note—Refrigeration Service Co., Inc., 449 W. 42nd St., New York City, services all makes of electric refrigerators.—Editor.

SERVEL IS NOW HOLDING SPRING SALES MEETINGS

Indianapolis, Ind.—Fifty Servel men attended the spring sales meeting conducted by Servel for the W. J. Holliday & Company, Indianapolis distributor, on April 1, at the Hotel Severin, here. This group comprises the Holliday organization, dealers and their salesmen.

This was the first of a series of spring meetings which are being held by Servel for the benefit of distributors and their selling organizations.

Paul W. Jones, Servel educational director, conducted the meeting and gave a very forceful demonstration of Servel domestic and commercial line. Mr. Jones introduced the new selling kit furnished to retail salesmen and demonstrated the effectiveness with which this new manual can be used.

The afternoon session was devoted to Servel commercial line and its advantages were stressed by Mr. Jones.

The dinner given by W. J. Holliday & Company to its dealer and wholesale organization, concluded the program. G. L. Stalker, of the Holliday Company, was in charge of the arrangements for the meeting.

OWEN GOES SOUTH FOR KELVINATOR

Detroit, Mich.—Richard Owen, of the Kelvinator sales promotion department, who returned here a few days ago from Reading, Pa., where he was on duty with the Associated Gas & Electric Co., in connection with the Refrigeration Jubilee, which started at that point April 15, departed on April 21 for New Orleans, La. There he will continue sales promotion activities in association with Kelvinator District Manager T. P. Hallock.

PRODUCTION NOT HALTED BY BELDING FIRE

Belding, Mich. — Sunday morning, April 13, a fire of undetermined origin, caused damage estimated at $25,000 in the Belding-Hall refrigerator factory here. The fire started under the machine room, where much of the equipment was ruined and will have to be replaced. Arrangements have been completed to carry on the work of that department, in other departments, so that there will be no delay in filling the orders for immediate and early shipment.

N. E. M. A. TO HOLD SPRING MEETING, MAY 18-23

New York, N. Y.—E. H. Hubert, publicity director of the National Electrical Manufacturers Association, announces that the spring N. E. M. A. meeting will be held at The Homestead, Hot Springs, Va., May 18-23.

SUBSCRIPTION ORDER

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550 MACCABEES BUILDING, DETROIT, MICH.

Please enter subscription to *Electric Refrigeration News.*

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,

Of ELECTRIC REFRIGERATION NEWS, published every two weeks at Detroit, Michigan, for April 1, 1930.

STATE OF MICHIGAN,
COUNTY OF WAYNE,
ss.

Before me, a notary public, in and for the State and county aforesaid, personally appeared Geo. N. Congdon, who, having been duly sworn according to law, deposes and says that he is the business manager of the ELECTRIC REFRIGERATION NEWS, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, F. M. Cockrell, 18090 Wildemere, Detroit, Mich.

Editor, W. Jabine, Tuller Hotel, Detroit, Michigan.

Managing Editor, John Drittler, 12150 Corbett, Detroit, Michigan.

Business Manager, Geo. N. Congdon, 429 Ardmore, Ferndale, Michigan.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

Business News Publishing Co., 550 Maccabees Bldg., Detroit, Michigan.

F. M. Cockrell, 18090 Wildemere, Detroit, Michigan.

3. That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is (This information is required from daily publications only).

GEO. N. CONGDON.
Business Manager.

Sworn to and subscribed before me this 28th day of March, 1930.

ANNA SACHS.

(SEAL)

(My commission expires August 27, 1930.)

THE CONDENSER

ADVERTISING RATE fifty cents per line (this column only).

SPECIAL RATE if paid in advance — Positions Wanted — fifty words or less, one insertion $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each. All other classifications—fifty words or less, one insertion $3.00, additional words six cents each. Three insertions $8.00, additional words sixteen cents each.

LARGE Public Utility Company has an opening in its Service Dept. for a few first-class service men who thoroughly understand electric refrigeration and are able to service both commercial and domestic units. Apply Metropolitan Edison Co., Reading, Pa.

POSITIONS AVAILABLE

ENGINEER, with executive ability, wants connection with manufacturer or large distributor. Five years' experience as service and commercial sales engineer, thoroughly familiar with all types mechanical refrigeration. Prefer western or foreign territory but will go anywhere if salary is attractive. Box 242.

THE vice-president and general manager of one of the largest electric refrigeration distributorships in the United States wishes to consider a new connection. Six years' experience in this industry as retail salesman, wholesale salesman, retail sales manager, factory representative, general sales manager and general manager. Thoroughly experienced in organization, sales, advertising, sales promotion, financing, and every function of a successful distributorship. Prefer middle-western connection. Address Box 241.

MISCELLANEOUS

CORPORATION having secured patent allowance on revolutionary features in domestic and commercial electric refrigerating machines is desirous of securing individuals and sales organizations for state and district distributors. Machines are noiseless, sturdy, fool proof, fully enclosed, and operate with low amount of current for capacity. They will sell at the price you have been wishing for. Write, stating what territory you prefer and how much. Replies treated confidential. Box 251.

GET TEST FACTS

and get all of them!

We feel you are entitled to know just what happens to your refrigerator from its receipt until it goes out the back door.

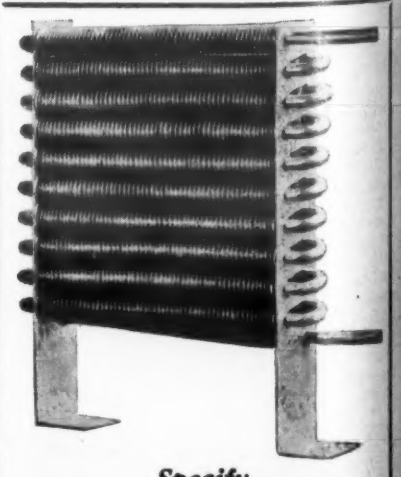
Complete records, work sheets, everything concerning the test, are open to your inspection.

GEORGE B. BRIGHT CO.
Refrigerating Engineers & Architects
2615 12th St., Detroit

REFRIGERATION RUBBER WARE

Specializing in the development and manufacture of hard and soft rubber parts for electric refrigeration.

THE AETNA RUBBER CO.
ASHTABULA, OHIO



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ROME, N. Y.

Refrigerated Food Section

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office.

The business newspaper of the refrigeration industry

VOL. 4, NO. 17, SERIAL NO. 93 | Copyright, 1930, by Business News Pub. Co. | DETROIT, MICHIGAN, APRIL 23, 1930 | Entered as second class matter Aug. 1, 1927, at Detroit, Mich. | IN TWO PARTS, PART 2

MULTI-COLD

New Frigidaire Will Provide Many Conveniences for Refrigerated Foods

Dayton, Ohio—Announcement of the Multi-Cold Frigidaire, a de luxe model providing four temperatures and two different atmospheres within a single electric refrigerator, will be made by Frigidaire Corporation, and will be brought to the attention of the public through a nation-wide campaign from May 1 to 10.

The new Multi-Cold Frigidaire is particularly designed to care for the new frozen foods in which so much interest is now being evidenced, according to E. G. Biechler, president and general manager of the company. Larger freezing trays, holding more ice cubes, a larger coil and compressor, storage space for frozen foods, twin hydrators and a separate bottle compartment held just above freezing, all contained in a cabinet no larger than the usual Frigidaire of the same cubic content, are features of this advanced refrigerator, Mr. Biechler announced.

This Multi-Cold is offered in two sizes—the nine-cubic foot and the twelve-cubic foot models. Five separate compartments are included in both refrigerators, giving a complete refrigeration service, and offering an ideal temperature for every type of perishable food, Mr. Biechler said.

"This Multi-Cold Frigidaire is specially designed to care for the storage, in the home, of the new quick-frozen foods, and is particularly important in the light of the rapid development this manner of merchandising perishable foods is enjoying," Mr. Biechler said.

"Foreseeing the day when each household refrigerator must provide a small cold storage plant for the home, Frigidaire engineers have presented this newest achievement, believing that it offers the last word in food preservation facilities. In addition to offering an advanced type of refrigeration for those people desiring this sort of service, the new Multi-Cold Frigidaire offers a glimpse into the future of electric refrigeration, and presents some inkling of the trend which development of the electric refrigerator will undoubtedly take."

Leafy vegetables are cared for in a separate compartment kept at a temperature best suited for their preservation. This compartment, made up of twin hydrators, provides moist air storage at a temperature just above the freezing point, which experiments have shown to be ideal for the crisping and freshening of vegetables.

Fresh meats have a separate storage compartment in which they may be kept indefinitely, or this same compartment

KELVINATOR EQUIPS FIVE MORE A. P. STORES IN BIRMINGHAM

Birmingham, Ala.—The Clark & Jones Piano Co., Kelvinator distributors, are working on five installations in Atlantic & Pacific Tea Co. stores. When completed the number of A & P stores equipped with Kelvinator electric refrigeration will be thirty. All of these jobs have been sold and installed within ten months, according to B. C. McCoy, wholesale manager.

Incidentally, Mr. McCoy reports quite a few sales to people residing at a distance from Birmingham who purchased Kelvinators as the result of his firm's radio broadcasting. Only a few minutes on the air are used, with snappy entertainment.

FARM BOARD WILL HAVE IMPORTANT PART IN FOOD CONTROL

Washington, D. C.—The Federal Farm Board seems destined to play an important part in the development of all of the food industries. At present the Farm Board is doing all that it can to persuade producers of food to get together in national groups.

The dairy and meat industries are being followed very closely by the Board, which is likely to be an important factor in the distribution of dairy and meat products. This means, of course, that refrigerated foods of various kinds will have the attention of the members of the Farm Board, as they work out their plans for a readjustment of conditions.

REACTIONS

THE decision to print the Refrigerated Food section on yellow paper was made largely because, in a recent book, Professor Walter B. Pitkin, of Columbia University, stated that black type on yellow paper had been proved by experiment to be easier to read than almost any other combination. A letter from Professor Pitkin says that he would like to know the reactions of readers to the new paper. Like all true students, he is anxious to add to his store of information on this important subject.

All comment has been favorable, and the ease of reading has made many friends for the Refrigerated Food section.

ADDITIONS

NEW frosted products are to be offered next week by the General Foods Corporation in the Springfield stores which have been handling Birdseye frosted foods for the last six weeks. The newcomers on the list are:

Broiler chickens (fresh killed, then frosted)
Green duckling — Calves liver
Stewing veal — Chuck roast
Hamburger steak

These additions to the frosted food family will give Springfield citizens a chance to get acquainted with a few new products.

CONTRIBUTIONS

REFRIGERATED foods, especially quick-frozen foods, are making such rapid progress in gaining public favor that it is a difficult matter to keep in touch with every development. The NEWS will welcome contributions from readers of the Refrigerated Food section who are engaged in the production or marketing of refrigerated products.

Photographs are especially valuable in the task of following the growth of an industry. They tell the story better than whole flocks of words. They help to keep the industry fully informed of what is going forward. The NEWS will be glad to get them.

Four Temperatures

The latest Frigidaire product

G. E. BANQUETEERS

Eat Their Quick-Frozen Meats Without Knowing It

Cleveland, Ohio—A group of unsuspecting commercial managers from every section of the country was utilized by W. E. Landmesser, head of the commercial division of the General Electric refrigeration department, recently, for the purpose of pointing out some valuable truths in regard to quick-frozen meats.

The annual commercial managers' conference here ended with a banquet, and when the time for speech-making came, Mr. Landmesser began by asking how many of the men present had ever tasted and eaten quick-frozen meats. A few hands went up in various parts of the room.

"I can tell you that everyone in this room has eaten frozen foods," declared Mr. Landmesser, "because the steak we served at the banquet here was frozen by the new process. It was delicious and I dare say no one knew the difference."

Mr. Landmesser felt that this sort of test, taking the men unawares, would effectually banish from their minds any possible prejudice against frozen products. The man who has eaten a steak and enjoyed it is not likely to reverse his opinion later just because he finds out that it was prepared by a method concerning which he may have had his doubts.

In addition to the spectacular eating

(*Continued on Page 6, Column 2*)

Office Breakfasts

THEY'VE started a new one at Pittsburgh—a bit of breakfast at 8:15 before the morning meeting of the sales staff.

This is what started it. Tona E. Focht, in charge of the selling brigade, arrived at the office of the Pittsburgh Kelvinator selling headquarters *sans* breakfast. He felt a bit hungry. It occurred to him to put the question as to how many present had trotted in without their cookies and coffee. Quite a few admitted that they were empty.

Mr. Focht promptly sent out for beakers of steaming Mocha and Java, with trimmings, and the inner man of the breakfastless was satisfied. The day's morning meeting went with new pep. Now they've made the little breakfast first order of business at Pittsburgh. The refrigerators come in handy for keeping the grapefruit, orange juice and milk.

SATISFACTION

Prevails as Springfield Test Campaign Nears Close

Springfield, Mass., April 22.—As the sixty days originally announced by the General Foods Corporation as the period of its test sales campaign of quick-frozen foods nears their end, the demand for the Birdseye products still keeps up. An air of satisfaction prevails in the General Foods offices, and the few figures which have been made public show that the satisfaction is justified.

An indication of the way things are going is the fact that the supply of spinach has been exhausted and a fresh pack is being prepared. It is significant that the new cartons of spinach will be one-pound cartons, instead of the small eight-ounce packages, which, however, will be continued, although in a smaller volume than the new size. As the frozen spinach is sold at a price twice that of fresh spinach, the fact that the first supply has been exhausted, and buyers want bigger packages, assume added importance.

Some interesting figures in regard to one of the week-end specials also show that everything is progressing favorably. The General Foods Corporation has been

(*Concluded on Page 13, Column 1*)

POULTRY

Frozen by Nitterhaus Bros. Gains Public Approval In Indianapolis

THE public attitude toward quick-frozen foods is the most discussed subject among those identified with the new development. The progress of the General Foods campaign in Springfield is being followed with the keenest interest, and every scrap of information in regard to public acceptance is welcomed. A valuable contribution to the store of information on public acceptance has been made by Nitterhaus Brothers, of Indianapolis. These two young men, who have been active for the last four or five years in the distribution of quick-frozen fish throughout Indiana, conducted a test campaign of their own in Indianapolis last December, selling quick-frozen poultry through about thirty stores in that city. The results obtained convinced them that the public likes the new quick-frozen products.

Marketing their poultry under the name, Frigidized Foods, Nitterhaus Brothers utilized about twenty stores of the Standard Groceries chain, and ten independent stores. They selected outlets in every part of the city, so as to reach all the diverse elements of the big community. They felt that the test would be of real value only if it established contacts with all classes of buyers.

The poultry was frozen on a small Kolbe freezer of the pan type and was delivered unwrapped. Each chicken bore a tag identifying it as a product of Frigidized Foods, Inc., and a card, which is reproduced on another page, was handed to each purchaser as well as to other customers who displayed an interest in the new products. A standard price was set, approximately the same as the fresh poultry price when sales began. This price was maintained throughout the test. The uniformity of the sales in the different sections of the city proved a pleasant surprise. No particular advantage seemed to rest with any particular class of trade, and in the less wealthy districts on the south

(*Concluded on Page 2, Column 4*)

WARNING WORDS

Too Much Haste May Endanger New Frozen Products

THAT there are many pitfalls in the path of quick-frozen foods is keenly realized by most of the men identified with the new products. Those with the most experience know that such a radical departure for the accepted methods of preparing and merchandising foods cannot expect easy going all of the way.

One of these men has set down some suggestions in regard to the points that he feels should be studied seriously. His attitude is that of a thorough friend of the industry, who is afraid that it may suffer at the hands of some of its too enthusiastic friends. And those who may be inclined to regard him as a borrower of trouble should bear in mind the fact that a good brake is often an extremely useful adjunct on any sort of vehicle, and the faster the speed, the greater the need of the brake. His words of warning follow:

1. Accessibility of product to clerks without losing space, display features, temperature control and economy in manufacturing the equipment, are all desirable.

2. Great harm will be done to the quick-frozen food business and embar-

(*Concluded on Page 4, Column 5*)

FOREMEN'S CLUB TO HEAR ABOUT QUICK-FROZEN FOODS

Fort Wayne, Ind.—The Foremen's Club of Fort Wayne, an organization which has achieved a national reputation, is planning to devote one of its monthly meetings to a discussion of quick-frozen foods.

The membership of the Foremen's Club is composed of about 250 foremen from the various manufacturing plants in Fort Wayne. The regular monthly meetings are held in the evening, and are preceded by a dinner. C. A. Croteau, of the Truck Engineering Company, is president of the club.

YANKEE CLIPPER

ELECTRIC refrigeration heads the list of innovations aboard the "Yankee Clipper," luxurious new train of the New York, New Haven & Hartford Railroad, which made its maiden run in both directions between New York and Boston, March March 18.

The two diners of the new train, the fastest operated by the railroad, are 100 per cent Frigidaire equipped. Each boasts five refrigerating units, capable of caring for all types of foodstuffs and beverages served.

In the galley of each diner, where space is at a premium, there are two units. One is a kitchen refrigerator; the other, a kitchen chill box, thirty-four inches in height, equipped with short order drawers and a storage box for fish. The chefs use the top of the kitchen box as a work table.

Another chill box is found in the pantry, and this is used for the preservation of pantry foods. In it are located three coils for ice-making, with a capacity of 432 cubes at a freezing; ice storage drawers, two storage compartments with a total capacity of ten gallons of ice cream and a special compartment for oysters, clams and similar sea foods.

In addition to the pantry chill box, there is a pantry storage refrigerator for the keeping of fruits and vegetables. A beverage refrigerator is built into the vestibule.

The five refrigerating units are served by two 1½ horsepower, air-cooled compressors, operating on 32 volts, direct current. This in turn is supplied by two special batteries when the car is standing still and by two five-kilowatt generators, operated from the axle, when the car is in motion.

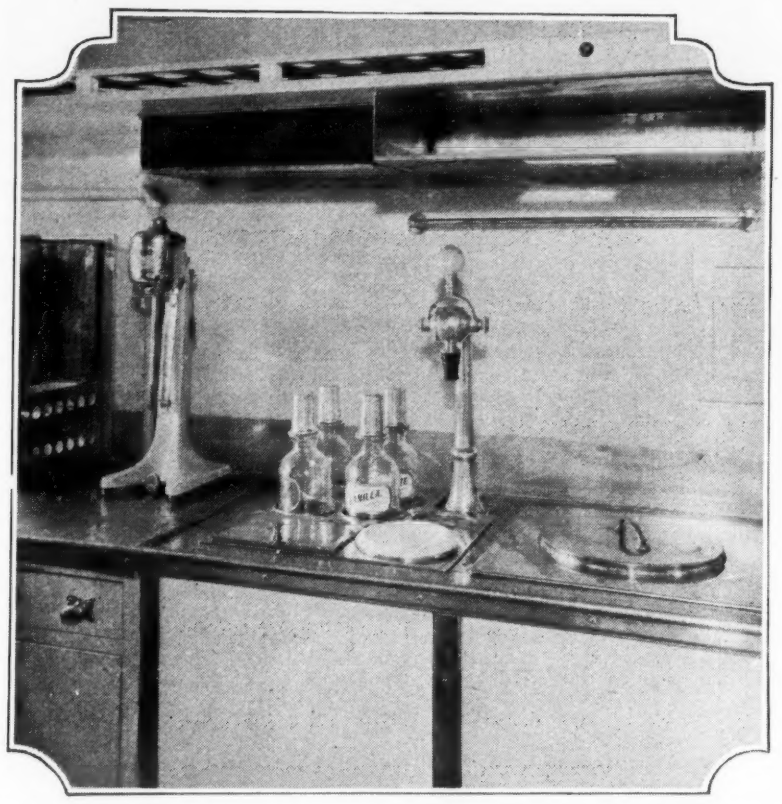
In addition to the two electrically refrigerated dining cars already in service on the "Yankee Clipper," there will soon be 8 similar diners for other crack trains of the New Haven Railroad.

Frigidaire played an important part more than three years ago in the first successful installation of electric refrigeration equipment in an American dining car. Working in collaboration with designers of the Chicago, Milwaukee & St. Paul Railway, engineers of the company equipped a dining car capable of making a transcontinental trip without icing.

This railroad now is operating one dining car with Frigidaire equipment serving every need and eleven others which are partially Frigidaire equipped. Each of the latter cars has a large electric refrigerator in its galley.

For approximately five years, Frigidaire equipment has been used in the dining car department of the "Flying Scotsman," crack Midland train running between London and Edinburgh.

Cool Drinks for Travelers



"Madam, I can guarantee *this* refrigerator It's CORK INSULATED!"

You give your customer a *full guarantee* only when you sell her a *cork* insulated refrigerator. Not a half guarantee. But a complete promise when you say: "It's cork insulated!" This means that the refrigerator will render faithful service today, tomorrow, and years from now—without increasing current costs.

It helps to feature handsome porcelain, gleaming hardware, and conveniently spaced shelves. But your customer pays for genuine food protection and operating economy. And you give her that full margin of safety only when the insulation is corkboard. Since corkboard is proof against moisture deterioration, current bills will not go up and efficiency go down with the passing of the years.

Consider the testimony of the cold storage industry. For 30 years their million-dollar investments have been protected by corkboard insulation. True, they've tested other materials . . . but they continue to depend upon the really reliable insulation. Your own interests too, are protected by corkboard insulation. Armstrong Cork & Insulation Company, 917 Concord Street, Lancaster, Penna.

Armstrong's Corkboard

The Standard Insulation for Refrigeration

POULTRY

(*Concluded from Page 1, Column 5*)

and west sides the sales were much better than had been anticipated.

The best record of the lot was made by the Standard store at Illinois and 30th Streets, on the North Side, the better section of the city. This store was in charge of an active manager, who was keenly interested in pushing the quick-frozen poultry, and he kept the Nitterhaus telephone ringing with his requests for an increased allotment day after day. He found no difficulty in selling all the quick-frozen poultry which he could get.

George Nitterhaus and his younger brother Noel, became interested in quick-frozen foods about five years ago, when the Indianapolis distributor for the Atlantic Coast Fisheries found himself with a carload of haddock fillets on his hands, which he seemed unable to move. The Nitterhaus Brothers, who were engaged at that time in the fresh fish business, undertook to help him out, and disposed of the whole carload in a short time. Once in the quick-frozen fish business, they decided to stick, and for some time acted as distributors for the Atlantic Coast Fisheries, handling at one time some of the largest shipments sent west by that organization.

At present they are getting their fish from the Leonard Fisheries, Ltd., of Nova Scotia, and in spite of the duty of 2½ cents per pound, are distributing profitably large quantities of quick-frozen fish. They cover the entire state of Indiana, eastern Illinois, and also distribute from two points in Texas—Fort Worth and Dallas. Since October they have handled about twenty carloads of fish.

Although well pleased by the results of their test campaign, the Nitterhaus Brothers are not freezing any meats or poultry at present. In addition to their sales of poultry, they froze meats which were distributed among friends and others interested in Frigidized Foods, Inc. All reports were favorable. Plans for resumption of meat and poultry freezing on a larger scale are not yet ready, and no announcement has been made on that subject. The freezing equipment can be easily enlarged by adding additional decks and raceways, so that a greatly increased production can be handled without trouble. These possible additions to the equipment would raise the capacity of the plant to a carload a day.

With their distribution contacts already established through their fish business, Nitterhaus Brothers and the associated Frigidized Foods organization, are well equipped to push the sale of additional quick-frozen products in their territory if they decided to do so. Their test campaign has shown that the public acceptance so much in evidence in Springfield is not confined to that New England community, but is paralleled in the middle west. Their pioneer work in that section of the country is of value to the entire quick-freezing industry.

Informing Indianapolis

Frigidized Foods

There is convincing proof that in the frozen North many of our cold blooded creatures freeze in winter to thaw unharmed on the approach of spring. Ideal conditions of quick freezing are responsible for the startling fact that no harm is done the cellular structure by freezing.

"FRIGIDIZED" freezing, likewise, is a patented commercial process which freezes foodstuffs almost instantly, preserving all the flavor and juices held by the food at its freshest, most flavorous moment.*

You will enjoy food so frozen, and be pleased with the convenience of purchasing made possible by "FRIGIDIZED" freezing and packing. Quick freezing is revolutionizing food distribution. Investigate it. Buy frozen foods only when labeled "FRIGIDIZED FOODS"; a trade name distinguishing this product from ordinary cold storage goods.

* The Basic advantage which "FRIGIDIZED FOODS" hold over slow frozen foods, lie in the size of the crystals formed when freezing. Large crystals form when freezing by the old slow process, which tear down the cell walls, and allow the juices to escape. The "FRIGIDIZED" process freezes instantly and only very small crystals are formed, so small that they do not tear down the cell structures, consequently all "FRIGIDIZED FOODS" retain their original flavor, food value and texture; devoid of all bacteria formations due to improper and unsanitary merchandising.

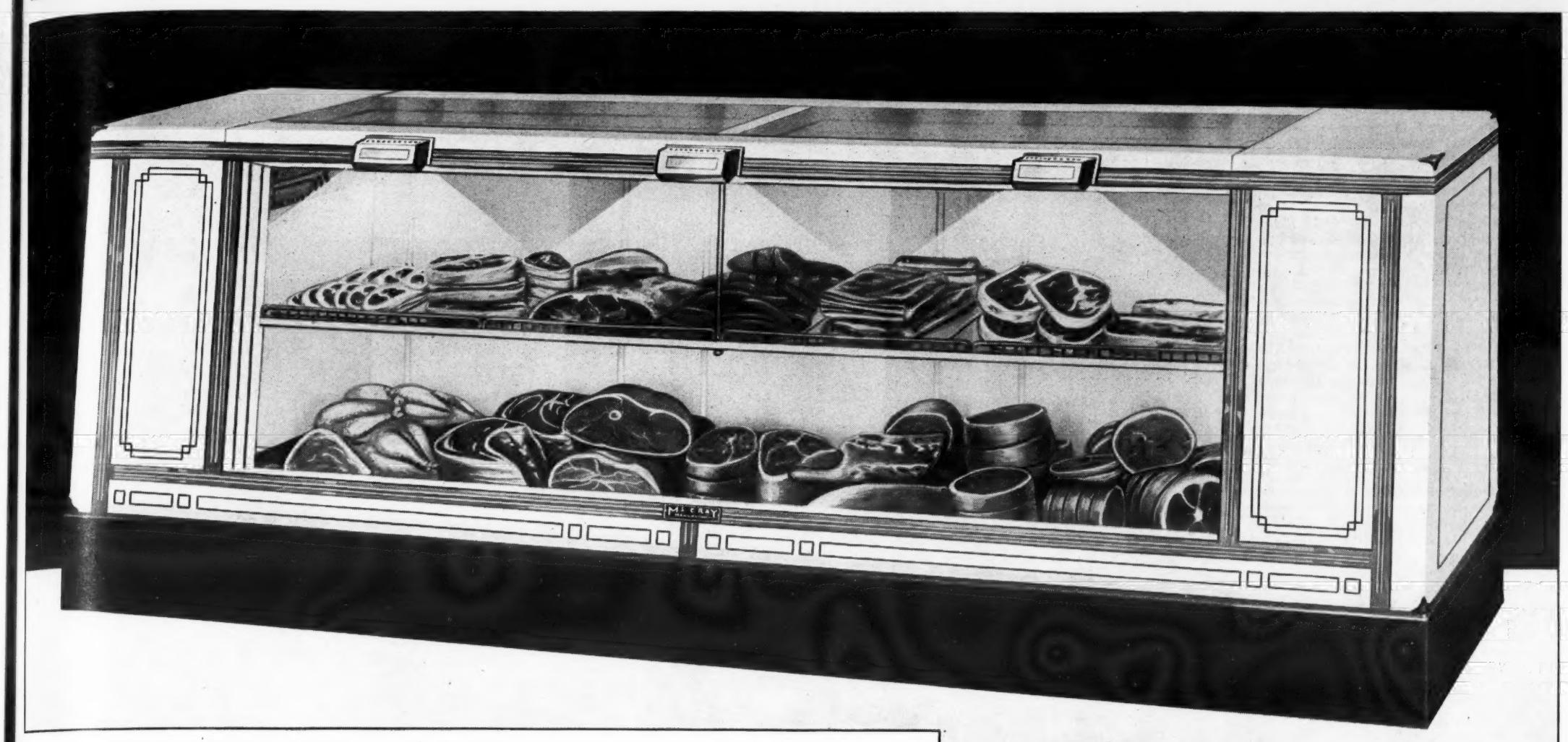
"THE ULTIMATE IN FINE FOODS"

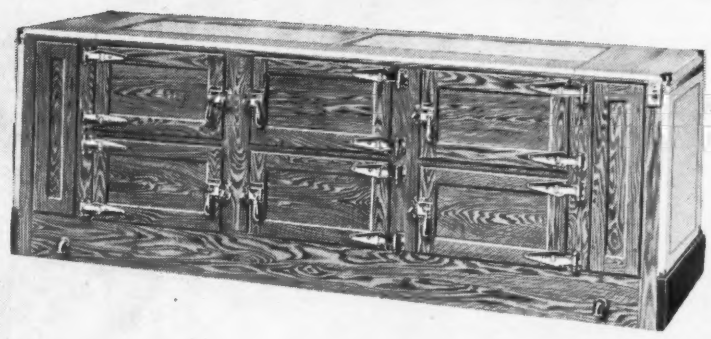
FRIGIDIZED FOODS
INCORPORATED
INDIANAPOLIS, IND.
TRADE MARK

Refrigerated Food

THIS section of Electric Refrigeration News is available to dealers for distribution to their commercial prospects at a cost of $10 per hundred—10 cents per copy.

Food retailers will welcome information on the new developments in food distribution. We suggest that dealers place copies of this section in meat markets, groceries, drug stores, ice cream and confectionery establishments, restaurants, hotels, etc.





Full Display in a New Porcelain Heavy Duty Case by McCRAY

ALL McCRAY MODELS MAY BE USED WITH MECHANICAL REFRIGERATION OF ANY TYPE

The gleaming beauty of its black and white porcelain exterior with Monel metal trim reflects the quality that goes into every hidden detail of the construction of this new case, the McCray P3110. Six-inch walls, with four inches of pure corkboard. Three courses of clear plate glass on top and front. Exterior electric lights are standard equipment.

Built exclusively for use with mechanical refrigeration of any kind . . . with 9-1/4 inch coil space in each end; access through plug doors in rear. Ten feet long, three feet deep, three feet eight inches high.

McCray quality construction insures efficient, economical operation. With this, and any other McCray —there are models for every commercial need—your customer is sure of satisfactory service. Send for details—and the latest McCray catalogs, without obligation.

McCRAY REFRIGERATOR SALES CORPORATION, Department 66, Kendallville, Indiana.

Salesrooms in All Principal Cities (See Telephone Directory)

BUSINESS OPPORTUNITY

There are a few openings in our organization for men who appreciate the opportunities afforded by a complete line of commercial refrigerators of highest quality, and enjoying the utmost prestige. The opportunity is offered to own your own business. Write now for complete information, without obligation, of course.

McCRAY REFRIGERATORS

WORLD'S LARGEST MANUFACTURER OF REFRIGERATORS FOR ALL PURPOSES

MULTI-COLD

(*Concluded from Page 1, Column 1*)

may be used for the storing of ice cubes or desserts for any length of time, thereby doubling the dessert and ice-freezing capacity. This storage chamber is also designed to care for the storage of the new quick-frozen foods.

A bottle storage is provided, where milk or bottled goods can be kept at exactly the proper temperatures. Finally, there is the regular refrigeration shelves for eggs and left-over foods and normal food preservation.

A feature of the new Multi-Cold Frigidaire is that all of these features are included in the cabinet without sacrificing an inch of floor space. The new models have 50 per cent more vegetable storage space, and its outside dimensions remain the same. It has two hydrators that will hold a peck and a half of vegetables. Since the hydrators are suspended from the bottoms of shelves, they take no shelf space, and are used to contain all the vegetables which formerly were apt to spread over a large shelf area. Its cold storage drawer for frozen products will hold a seven-pound fowl, or a full freezing of ice cubes for an indefinite period. The bottle storage compartment will hold a dozen quarts of milk for days and days.

An all-porcelain ventilated wall separates the cold storage compartment from the normal refrigeration compartment. Each of the compartments in the extreme-cold side of the Multi-Cold is kept separated from the above-freezing compartments by an insulated inner door which safely seals the below-freezing temperatures from the necessary higher temperatures which the box also affords.

Arrangements of the Multi-Cold interior are as follows:

The ice trays and dessert freezing trays are located in a separate compartment at the left top of the refrigerator. Below the ice trays is the large all-porcelain frozen storage drawer, with the drain pan for defrosting directly underneath. The frozen storage compartment is entirely enclosed by an all-porcelain door with a chromium-plated latch.

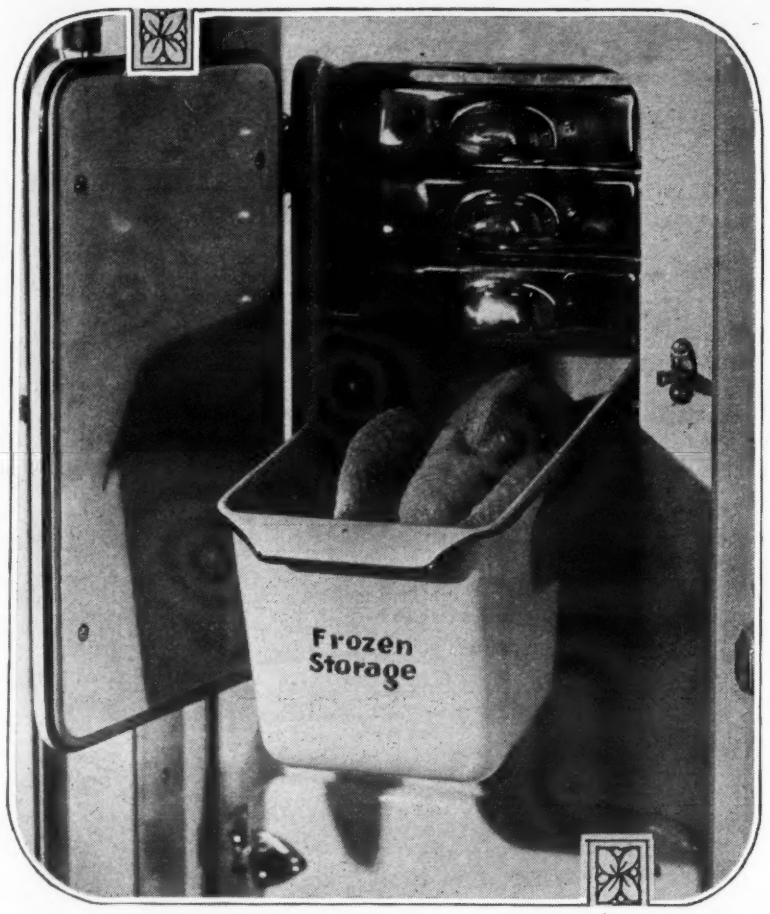
Beneath this compartment is located the storage for vegetables and the bottle storage compartment. Adjoining is the bottle storage compartment. These compartments are maintained at a temperature just above freezing, with a door to separate them from the normal cold compartment. This is located on the right side of the cabinet, and maintains the dry, normal refrigeration, below the 50 degree mark, which is necessary for the preservation of the usual types of perishable foods.

A larger Frigidaire compressor supplies an abundance of power and a larger Frigidaire cooling coil provides greater and quicker heat elimination. The combination of these two features makes it possible to secure the lower temperatures provided in this Multi-Cold model at no additional operating cost, or even a slight reduction of operating cost, over the same size model in the regular Frigidaire line.

Usual Frigidaire features have been incorporated into this advanced refrigerator. It is porcelain-on-steel inside and out, with rounded corners for easy cleaning. It also is equipped with the Frigidaire Cold Control for speeding up of ice and dessert freezing.

Frigidaire's campaign of announcement on this new model will be nation-wide, and continue over a ten-day period, it was announced.

Quick-Frozen Foods Have Place in New Frigidaire



In Frigidaire's Multi-Cold models a separate compartment has been arranged for refrigerating quick frozen foods.

WARNING WORDS

(*Concluded from Page 1, Column 5*)

rassment caused the display case manufacturers if low temperatures are not maintained under severe conditions of service. Also, if the cases frost up from infiltration of hot humid air.

3. If any products become defrosted, partly defrosted in display cases, or even held near the defrosting temperature (with wide fluctuations) for a considerable period, serious consequences are possible. It makes no difference if the products are subsequently refrozen.

4. Defrosting of products during transportation, warehouse storage or retail storage can produce serious results before products reach the display case.

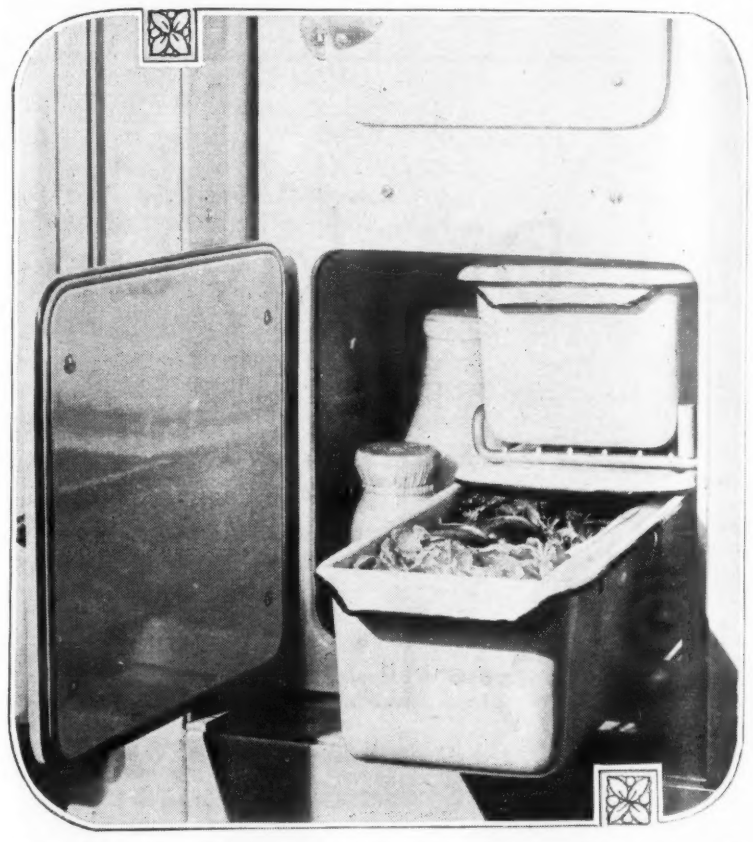
5. Too hasty conclusions and too early commercialization of cases or units may make trouble.

6. Too much attention to unimportant fittings, trimmings, ornamental work and "catchy" features at the expense of operating characteristics is undesirable.

7. Limited display area should be experimented with, as it seems possible that all the merchandising values through eye appeal can be retained by employing other means such as colored light, posters, lighted signs, flashers, etc.

8. It seems unnecessary to have large side doors or bottom doors of ordinary arrangement, which result in the spilling out of large volume of refrigerated air each time they are opened.

More Space for Vegetables



Twin Frigidaire hydrators in the lower compartment hold about a peck and a half of vegetables

Easy to handle....Highly efficient

INSULATION

BALSAM-WOOL SEALED SLABS

made especially for Mechanical Refrigerators

As a service to Mechanical Refrigerator manufacturers, these practical Sealed Slabs are made to any length, breadth, or thickness.

Rigid enough for easy handling, flexible enough to fit snug—they eliminate patchwork, reduce labor costs, increase the efficiency of your refrigerators.

They are ready to put quickly in place. And once in place, they are there to stay. Sanitary, odorless, vermin-proof, economical—carefully sealed against moisture.

The average thermal conductivity of Balsam-Wool Sealed Slabs does not exceed .25 B. t. u. per square foot, per inch thickness, per one degree Fahrenheit difference in temperature per hour.

They are built up to required thickness with layers of Balsam-Wool Blanket—positive assurance that each is completely filled with a *permanent, non-settling,* highly efficient sheet of insulation.

If you haven't already examined the *perfected* Balsam-Wool Sealed Slab—let us send you one *free.* Write to our nearest sales office—today.

WOOD CONVERSION COMPANY

Mills at Cloquet, Minnesota

Industrial Sales Offices:

Chicago, 360 No. Michigan Ave.

New York, 3107 Chanin Bldg. Detroit, 3084 West Grand Blvd.

A guaranteed Weyerhaeuser product

Manufacturers of Balsam-Wool Insulations for Domestic Refrigerators, Motor Buses, Airplanes; Balsam-Wool Steel Passenger Car Insulation; Balsam-Wool Refrigerator Car Insulation; Balsam-Wool Standard Building Insulation and Nu-Wood Insulating Board; Balsam-Wool Acoustical Blanket

Sally Seeks Shivers

PRETTY Sally Blane, R. K. O. featured player, demonstrates that a big Frigidaire commercial box for keeping perishables is also a fine place in which to cool off.

PERCIVAL

TWO cases for retailing and displaying quick-frozen meats are now being manufactured by the C. L. Percival Co., Des Moines, Iowa. One of the models, No. 800 Sani-Freez, has a full display for frozen products, while the other, Model No. 710 "Duo-Temp," has the display divided into two separate sections, one for quick-frozen meats and the other for fresh meats, which can be kept at a temperature of about 40 degrees.

The "Sani-Freez" model is available in 8, 10 and 12 ft. lengths, with exteriors of porcelain, trimmed with Monel metal. The front four plate glass display is equipped with special moisture absorbing chemicals to protect the glass from sweating or fogging. Rear top drop type doors also have four courses of glass fitted with two rubber gaskets to make them airtight.

This case is insulated with four inches of Armstrong's corkboard, and is further protected on both sides with one thickness of three-ply Kraft waterproof paper. The frame is of soft white pine covered on the outside with ⅞-inch selected white oak, giving the case added strength. The interior is metal lined throughout, finished in white.

Lower doors are hinged on sides, with adequate openings for packages. Also a suitable scale stand in rear, forty inches from floor of room. Overhead refrigeration is used.

This No. 800 "Sani-Freez" refrigerator display is designed to develop any temperature down to zero. Temperatures can be maintained throughout the case at point desired. The case has a maximum amount of room for storage below. If temperatures above freezing are to be maintained in this case, a drip pan is furnished under the overhead coils.

For the merchant contemplating handling both frozen and fresh meats, the "Duo-Temp" case is designed. In the 20-degree section of this case, four inches of corkboard are used in the bottom, front, rear and end, while two inches of corkboard insulate the top. In the 40-degree compartment, two inches of corkboard are set in the top and three inches of corkboard insulate the remainder of the case.

Separating the two sections is a vertical center partition which is of double plate glass insulated with two inches of corkboard up to the glass line. Dehydrator pockets absorb moisture between each front glass. Each pocket is accessible and can be easily recharged in a short time without removing glass. Front of each side has three courses of glass, set 1¼ inches apart. Three large doors in the rear of the case open to roomy storage compartments in the base.

Each end is equipped with overhead combination coil hanger, drip pan and baffle assembly made to fit 5" x 5" coils. Cold air goes down middle, and warm air up front and rear. Baffles can be removed and left out, if preferred. Front and back baffles are separate and are easily unhooked, and dropped and removed. Coil hangers are also easily unhooked. The bottom of both ends is equipped with pan and baffle assembly. The top of the 20-degree end is equipped with coil hangers only, or supports for the coil, no baffles being used in this freezer end.

If freezing temperature is not wanted immediately, both ends of the counter can be coiled the same, and later, if the purchaser wants to retail quick-frozen products, he can convert the one end of the counter into a freezer both in the upper display section and in the lower storage section by increasing the collage.

DISTRIBUTOR TO HAVE "HOME COMPLETE" SHOWROOM

Evansville, Ind.—Kelvinator displays will be a feature in the enlarged "Home Complete" exhibition room of the A.-I. Building Material Co., Kelvinator distributor, Garvin street and Morgan avenue, William Johann, general manager, stated. An extensive program of building enlargement and remodeling will provide one of the most attractive home-making and equipment showrooms hereabouts. The new exhibit will include a section with Kelvinators in operation.

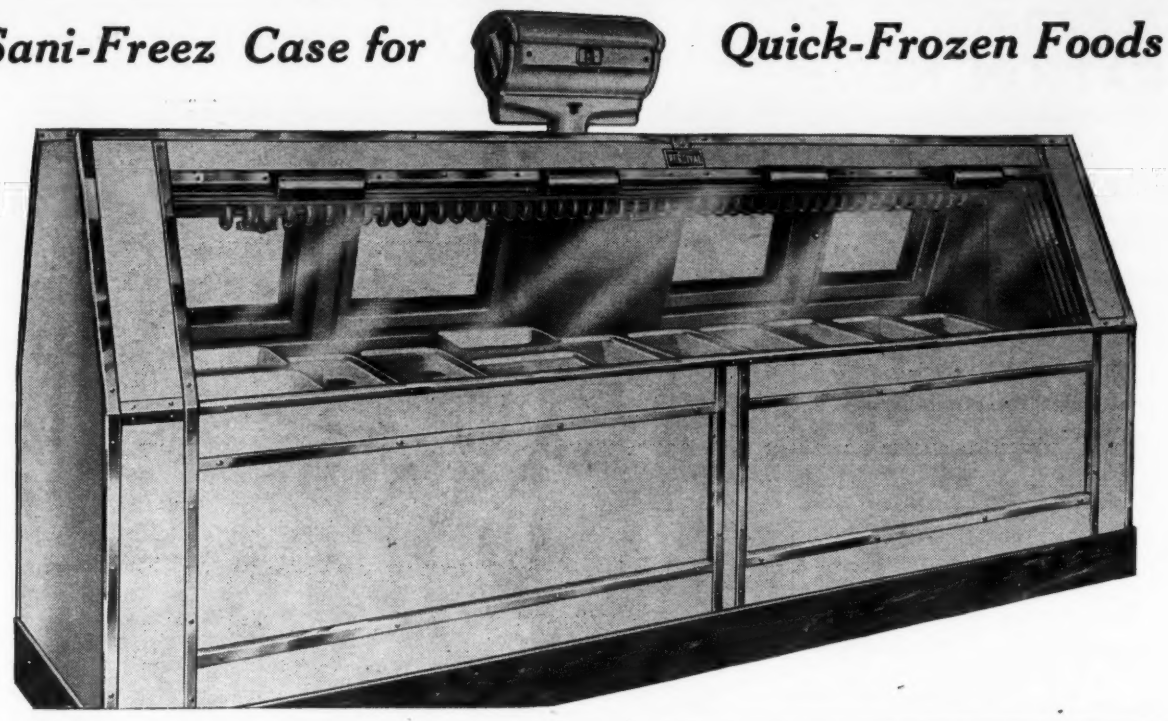
APPRECIATION

"It has been my intention for some time to write to you expressing my appreciation of your paper. I find it my greatest aid in keeping track of the constant changes among the New England refrigeration offices and their personnel.

"And now that you have the new yellow paper, permit me to congratulate you on that also. Reading the Refrigerated Food Section of the March 26 issue was a pleasure, both from point of content and from the strength with which the type stood out.

"I sincerely trust that the NEWS will continue to grow along such satisfactory lines."—Joseph Lewis Hallett, 1126 Boylston St., Boston, Mass.

Sani-Freez Case for Quick-Frozen Foods



HARRIS EQUIPMENT PLACED IN SEATTLE MARKET

Seattle, Wash.—Security Public Market which recently opened had the Harris Ice Machine Company of Portland install a large brine circulation refrigeration system.

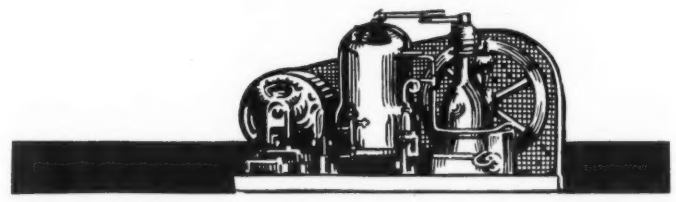
All cases designed to contain perishable commodities are refrigerated from this central system, thereby providing constant low temperatures for the preservation of foodstuffs.

The mechanical equipment of the installation includes two compressors, either of which has ample capacity to provide the necessary refrigeration. The dual system was made as a precaution against possible breakdown, thereby assuring constant service.

QUICK FREEZING PLANTS

AN interesting tabulation of quick-freezing plants in the United States and Canada, although not complete, is made in the April issue of Food Industries. It is interesting to note that of the thirty-six plants mentioned, all but four of them are interested in the quick freezing of fish.

NOW
"frozen foods"
POINT TO
A TREMENDOUS NEW MARKET



THE new frozen foods point to revolutionary changes in the set-up of retail food stores. New types of food retailers may be developed. Certainly all stores that handle frozen meats in individual packages must promptly install new and up-to-date refrigerator equipment.

Servel outlets will have several outstanding advantages in selling this tremendous new market.

Temperatures of from 35° to 45° have been low enough for efficient food protection in the past.

But frozen foods require temperatures of from 10° to 20°. This is your great opportunity.

For Servel machines are excellently adapted to this heavier refrigerating service . . . even without changes in design.

Their heavier, sturdier construction enables them to stand up under these severe operating conditions.

Their superior operating economy becomes an even more vital factor as the refrigeration temperature goes down. Provable savings reach a figure so high no business man can afford to overlook them.

• • •

The present Servel Commercial Series meets every present day requirement . . . has proved its power to sell against any other machine on the market—and earns a steady succession of profits for Servel outlets.

Changes in this great series will be made only when they will increase efficiency . . . and to assure Servel outlets of continued and equally impressive selling advantages.

If you are equipped to take the fullest advantage of the profit possibilities Servel offers, write us and learn whether the Servel Franchise in your territory is still available.

SERVEL SALES, *Inc.*
Evansville, Indiana

REFRIGERATED FOOD SECTION

ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry

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Salesmanship

IN one way quick-frozen foods are exactly like most other commodities. They do not sell themselves. The manufacturer or merchant who thinks that he sees in quick-frozen foods an easy way to fame and fortune, especially the latter, would do well to extend his thinking a little further.

There is a novelty element in quick-frozen foods, that if properly handled is of great help in producing sales. But novelty alone is not sufficient to put over a product. The customer's dollar is being fought for these days by a host of skilled advertisers and merchandisers, and the man who wants a share of that dollar in exchange for the product he makes or sells, must join in the fight and put forth all the skill at his command.

All of which means that the retailer who decides to sell quick-frozen foods should acquire as much knowledge as he can about the new products before they enter his store. He should demand of the producer explicit instructions in regard to the temperatures at which they should be kept, the kind of cases that can maintain the necessary temperatures, what he should tell his customers, how to take care of complaints, and various other details that may come up in the course of his selling job.

A most important factor is the man or woman actually in charge of the sales of the new products, the one who makes the contact with the customer. The man behind the counter can spell success or failure for quick-frozen foods. If he is indifferent, fails to learn the advantages of quick freezing so that he can pass on his knowledge to the customer, does not know how the customer should keep or cook the food just bought, he is a distinct liability.

On the other hand, if he is alert, enthusiastic, full of information about the foods he is selling, he can put them over in almost any sort of community. In most of the places where quick-frozen foods have been unsuccessful, poor salesmanship has been a big contributing factor. And where they have gone over as in Springfield, Massachusetts, careful planning, good advertising, and clever salesmanship have been in evidence.

Selling quick-frozen foods is not going to be child's play. The men who have had the most experience in the field know that better than anyone else. Close co-operation between producer and retailer is going to be necessary. At every point along the way quick-frozen foods must be carefully guarded. The producer puts his name and trademark on them and he risks his reputation every time he does so, for unless the retailer keeps them properly and sells them properly the producer's hard won reputation is bound to suffer.

The widest possible dissemination of knowledge in regard to frozen products will help to carry the new industry to success. Producer, distributor, retailer and consumer should have no secrets from each other.

◆ ◆ ◆

Home Service

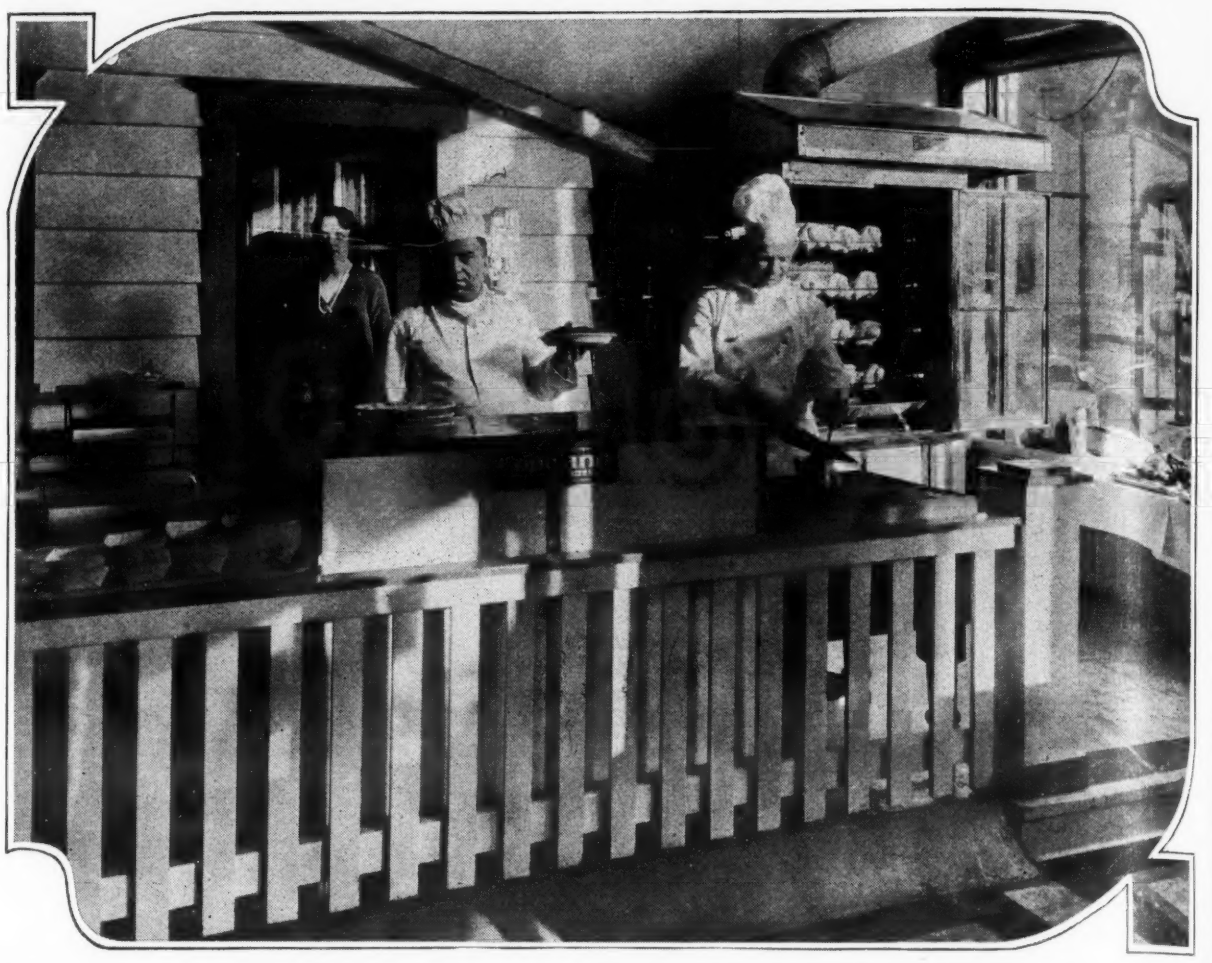
THE uses of the modern electric refrigerator are legion. The old ice box could keep things cool when there was enough ice in it, but that is just about all it could do. It lacked versatility.

But even the most versatile refrigerator cannot give the householder full value if said householder doesn't know how much it really can do. That is where the home service women come in. Their importance in the refrigeration industry is constantly increasing. They are most of them out in the field in direct contact with customers and potential customers, and they are paving the way for thousands of sales.

It is their work that is making the electric refrigerator something more than an efficient machine. The average housewife isn't greatly interested in the construction of her new refrigerator, but she is vitally interested in what it will do. She wants to know a great deal more than the way to make frozen desserts. How fresh it keeps vegetables and various other things that would never occur to the average salesman are uppermost in her mind. There may be some salesmen in the industry who are experts in the culinary side of refrigeration, but nobody seems to hear much about them.

The home service women *are* making themselves heard. They know their subject and they know how to put it over. How many of them there are is a matter on which there seems to be no available statistics The subscription lists of the News show, however, that many of them are readers of this publication, and beginning with this issue, they are to have a corner of the Refrigerated Foods section all to themselves, although any mere male who wants to acquire some useful information about the refrigerator business is welcome to read it. The home service corner in this issue is on Page 12 of this section.

Rustic Restaurant Relies on Refrigeration



WHEN one enters the Farm Restaurant on Washington Street, in Syracuse, N. Y., he recalls to mind the quaint old farm house where the delicious chicken once tickled his palate. The idea of old farm is carried out in this restaurant and here they also serve chicken, cooked on a rotisserie. Although turning back the pages in its decorative effect, the restaurant has electric refrigeration for keeping the perishable foods.

Copeland equipment cools a four-hole ice cream cabinet, a large storage refrigerator and a twelve cu. ft. kitchen service refrigerator. A Copeland Model LC cooler has the job of cooling the drinking water in this rustic restaurant.

CONFECTIONERY

May Require New Type of Cooling Units

9 South 40th St.,
Philadelphia, Pa.,
April 19, 1930.

ELECTRIC REFRIGERATION NEWS,
Detroit, Mich.

In the last number of your paper appeared an article about a druggist in Arizona who keeps his stock of chocolates in an electric refrigerator.

In Arizona, Utah, Nevada and California, east of the Coast Range, it is feasible to do this, but it would not be advisable for dealers in candies in other parts of the country, where the atmosphere contains a normal moisture.

The ideal temperature for keeping chocolates is between 60 and 70. If they are kept in very low temperatures they will "sweat" when exposed to the air. Chocolate absorbs no moisture, and unless the condensed atmospheric moisture is immediately wiped off, they will spoil over night.

Certain other candies, such as creams, contain a large percentage of water, and if kept in the extremely dry interior of an electric refrigerator, will turn hard as stone in a short while.

I take the liberty of writing this because the article in the NEWS may suggest to some distributors a possible field for sales, and it would be wise to consult some of the larger manufacturers of confectionery in different parts of the country as to the ideal refrigeration conditions for their product.

With such information at hand, a practical electric refrigerator could easily be devised, and a wide field opened among dealers in confections.

With best wishes,

LEO. C. JONAS.

BANQUETEERS

(*Concluded from Page 1, Column 3*)

test, considerable time at the business sessions of the conference was devoted to quick-frozen foods. Mr. Landmesser told the commercial managers that the General Electric Company is hard at work to solve various problems connected with this new phase of refrigeration, but, he added, in the meantime it is not necessary for the sales force to wait for the ideal or the ultimate.

"Many small stores will be contacted by packers and others on the sale of frozen foods," he said. "We have several cabinet and unit combinations that can be used for this service. For the large stores where more storage space is required, we have other units which give excellent results.

"Publicity given to frozen foods in newspapers, magazines and trade journals has resulted in widespread attention to those products and their possibilities. The United States government is co-operating with the fruit growers in working out methods to utilize excess fruit crops. Fresh strawberries picked ripe from the vines and frozen by this quick-freezing process, sealed in the original freshness and flavor, can now be purchased in many stores. Meats and fish are perhaps receiving the greater publicity, due to the energetic methods of meat packers and fisheries. The process of quick freezing bids fair to revolutionize the merchandising of meats, fish and fruits.

"But there must come first a period of educating the public along this line. The new process must be explained to the public. We have always had frozen meats, poultry and other products, and there has always been an aversion for frozen food products because people felt them to be inferior in quality. But the new process—that of quick freezing—will remove this prejudice because the product will retain its flavor and palatability, whereas by the former method of slow freezing the food was said to have lost much of its flavor.

"'Sometimes 24 to 48 hours and longer were required to freeze the foods. During a slow freezing process the food juices crystalize and expand in the cell structures, thereby rupturing the delicate tissues. When defrosted, the juices would escape, causing the product to become less nutritious as well as losing its firmness, color and flavor.

"The new process eliminated the old objections. In this refrigerating method the food product is brought to a temperature in some cases as low as 40 degrees below zero. The time required for freezing varies from one and one-half hours to two or three hours. During this short period of time the expansion of the juices is not such as to rupture the cell tissues. Therefore, the product retains its flavor, color, nutrition, and juices intact. To distinguish the old product from the new, the new products are referred to as frosted products, rather than frozen.

"The foods must be kept in the frosted state until sold, and the retailer must have facilities for keeping the frozen food until purchased by the consumer."

At the close of the conference, Mr. Landmesser expressed himself as well pleased with the interest which the men displayed in quick-frozen products and their possibilities for future business.

INDEPENDENT STILL FIRST

THE independent retailer still maintains his place as the principal channel of distribution in American business. Of the $41,000,000,000 worth of goods sold in retail trade annually in this country, the independent store handles approximately 61 per cent or over $25,000,000,000 worth of the total sales.

The largest investigation conducted by the United States Department of Commerce analyzes the remainder of the retail sales of the country in the following manner. Department stores take second place with 16 per cent of the total business or approximately $6,500,000,000. Chain stores are in third place with a figure of approximately $6,200,000,000 or 15 per cent of the total and mail order houses are next with 3.8 per cent of the total, followed by house to house selling and company stores with two per cent each.

STOREKEEPER

Finds Refrigerator Uses Little Current

THE testimonial letter which forsakes pleasant platitudes and gets right down to cold facts is a rarity. That sort of letter turned up recently in the office of the Florida Electric Refrigerator Company, of St. Petersburg, Florida, distributors of General Electric refrigerators.

W. M. Roberts, who operates a general store in Lake Placid, Fla., bought a G. E. refrigerator about sixty days ago. After using the unit for two months he wrote the following letter, telling just what load the refrigerator had to carry and what the cost of operation amounted to. Here are his facts:

"This is to state that I have had a C-451 General Electric refrigerator for 60 days. This has given me time to judge its operation. My last month's bill was $6.60, at 5 cents per kwh. We also used a sausage mill on the same meter.

"I am carrying about an average stock as listed below:

Butter	55 pounds
Coca Cola	36 bottles
Milk	10-12 quarts
Bacon (sliced)	22 pounds
Bacon (whole)	1 side
Cheese	17 pounds
Cheese	In packages
Beef	375 pounds
Sausage	20 pounds
Ham (cured)	45 pounds
Ham (minced, etc.)	10 pounds
Pork Loin	45 pounds
Pork Roasts	10 pounds
Neck Bones	25 pounds

"We are more than pleased with the operation of the General Electric, and have built a business in three months by it that I anticipated in a year."

BOGART COMPANY ADDS TO PROSPECT LIST

Toledo, Ohio—The H. G. Bogart Company, of Toledo, distributors of General Electric refrigeration, obtained several hundred prospects through participation in a cooking school, which was held under the auspices of a local daily newspaper recently. A G. E. booth at an industrial exposition added more names to the list. Refrigerated foods received considerable attention during the cooking school sessions.

In addition to obtaining prospects, the company received a large amount of publicity by taking part in the cooking school at a nominal cost, according to H. G. Bogart. The only expense involved was a series of advertisements in the newspapers, and the large number of sales obtained more than justified the expense.

The results from the industrial exposition were equally successful. More than 5,000 people viewed Toledo's industrial progress daily, and company officials reported that sales were active.

Display and Storage

Should Be Combined in Cases for Handling Quick Frozen Foods

By F. B. Green
Ottenheimer Bros., Inc.

TAKEN as a group, the manufacturers of refrigerators and refrigerator display cases are vitally interested in the development of proper equipment for the merchandising of quick-frozen package meats to the public. The facts pertaining to this new phase of the business as we see them are:

That the hard-chilled package meats can and are being produced in salable form.

The producers of quick-frozen products have full knowledge of the ways and means of creating public interest and demand for the product, through magazine articles, advertisements, etc.

This demand once created must be quickly satisfied, or the effort to create it will be wasted. In order to satisfy this demand quickly, a sufficient number of retail dealers in each community must be equipped to merchandise the product to the public properly and economically.

Equipment of Paramount Importance

What equipment will do this properly and economically becomes a question of paramount importance. To use even the best of the present equipment now installed in these stores would be dangerous procedure, except as a purely introductory measure. Excellent equipment has been sold to retail dealers for the purpose of maintaining temperatures well above freezing. In a great many instances this equipment is in excellent condition. The dealer will have demand and use for it in the field he is now operating for many years. It will be next to impossible in field practice to discriminate between the case which might be so regulated as to give fairly satisfactory results with below freezing temperatures, and the ones in which such results would be dangerous.

In the heavy duty floor type cases, having two or more shelf levels, it will be possible to maintain freezing temperatures at the lower shelf level, but hardly possible to believe that the dealer and his helpers would always remember to keep the quick-frozen food products off of the upper shelf levels. Certainly, in their interest to have them moved quickly, they would be tempted to display these cuts on the upper shelf levels, where, as they know from experience, they are much more visible to the customer and attract more sales.

Some multiple glass top display cases will operate for considerable length of time with shelf temperatures adjusted below freezing. Hot, humid days, however, will present a strain on the majority of these cases for which they were not designed. Doors will swell and stick. Precipitation of moisture on and between the glass of the front will appear. Definite damage to the equipment will be caused by joints being forced open.

If the dealer was just getting under way with a nice volume of business on the quick-frozen meat cuts this would considerably inconvenience his operations and possibly cause loss through spoilage of merchandise as well as equipment.

Expensive to Alter Equipment

In some stores where there are two pieces of equipment, a display case and a refrigerator, neither one designed for below freezing temperature work, it would seem doubly dangerous and expensive to attempt to alter this equipment. There would then be two units strained to work outside of their normal capacity. Dummy packages and ice cream cabinet storage can be used as an introductory method, but this method is not likely to produce any quick volume or demonstrate any reliable facts about the extent of the market. It certainly seems that, if the desire is to build up a steady demand for a volume of this product, a lot of time would be wasted, money lost and the entire project placed on an unsafe basis by temporizing or avoiding the issue of obtaining equipment necessary to handle it. The equipment manufacturers have been working on the problem of producing the proper equipment for more than two years, ever since the quick-frozen fish filets first made their appearance.

The fact that the market for the product is so far from being mapped out for us, makes our problem more difficult. Sometime in the future we will see large markets devoted exclusively to the merchandising of quick-frozen meats equipped with many feet of proper display and with large sharp-freezer storage rooms. These must grow from small departments, which, in the beginning, will handle and display from small merchandising units.

The merchandising features of the unit are at least 75 per cent of the problem. These are display, storage, accessibility, appearance, size, etc. The technical features, temperature, construction, materials, etc., represent the other 25 per cent and are by far the easiest part.

"Sell where the demand is created" has long been good merchandising. Proper display will create the demand.

Without proper display there will be little need for storage, an established fact based on the experience of the world's best merchandisers. This display should be of ample area to permit an attractive arrangement of sufficient quantity of the full line, so that the customer does not get the idea that the particular piece displayed is handpicked and maybe represents the only fine piece in the batch. The height of the display above the floor should be approximately counter height so as to be easily visible to the customers of the average height while standing in buying position. The arrangement of the display shelf and the slope of the front of the case should be such that the entire shelf is easily visible to customers standing all along the entire length of the case.

If it is admitted that display will be a necessary factor, then the effect of this display should be intensified and focused by illumination in the most effective and efficient manner, care being taken that the lights do not cause glare on the glass to confuse and distract attention and that the reflectors do not obstruct the clear view of the display shelf. There have been developed methods to conceal the lights in a compartment in the structure of the top, so ventilated that the heat is carried away without affecting the temperature at the display level, and other methods using reflectors spaced along the upper front rail of the cases, giving good results. Clear lights shining on the meats through clear glass may cause the color to fade so that a frosted bulb or some translucent material between the bulb and the meat seems necessary.

Quick Service from Display

In order that the public may purchase from display, this portion of the equipment must be easily accessible to the dealer for quick service and so arranged that the temperatures and clear vision through the glass will not be seriously affected by the frequent opening and closing of the doors. This would indicate that the bottom of the door openings should be at least 8 inches above the display shelf and that the cooling element should be below the bottom of the door opening. Whether these doors should be hinged or sliding, only field experience will tell us; a sliding door can never be even approximately airtight. Certainly it is apparent that these doors should be as small as possible, as only package goods are to be handled.

As the top of the coil or cooling element sets the height of the layer of refrigerated air in the case, this line should be (1) higher than the top of the product displayed on the shelf, so as to maintain refrigeration over the display; (2) (as above stated) below the bottom edge of the door openings, so as to conserve refrigeration; (3) it should be as little above the bottom edge of the front display glass as possible, for even if four or more glasses are used, the total insulation value of the air spaces confined between the glasses will be much less than that of the solid insulated portions of the cabinet, so that the less area of this glazed portion that is exposed to a sharp difference between inside and outside temperature, the more efficiently the case will operate. Clearness of vision through more than three thicknesses of ¼-inch plate glass is greatly reduced.

Temperatures in display portion at a height of 4 inches above the display shelf should be well under 26° F. when the room temperature is 85 to 90°.

It goes without saying that the exterior appearances of the display case should be such as to impress the customer with the idea of sanitary methods and clean attractive merchandising.

Storage Requirements Vital

Storage requirements of the quick-frozen package indicate that an entirely new technique may be possible. High storage compartments, such as formerly necessary to handle carcasses, and large pieces are unnecessary. If the dealer is equipped to display and store 800 lbs. of product at one time, he would be able to sell at least 2,000 lbs. per week with the maximum of convenience. Provision for the storage of six times the amount of the display should be ample. Size, weight and shape of packages vary so that it is necessary to arrange to avoid confusion and have ready access to the entire volume of storage. These requirements lend themselves nicely to the possibility of utilizing the space worthless

(*Concluded on Page 8, Column 5*)

Day by day
leading manufacturers
are seeing
a new selling point
in Dry-Zero:
that of the finest,
most efficient
known cabinets
to match their motors
and machines

THE ACTUAL FACTS

Tests have been made by impartial national authorities such as U. S. Bureau of Standards, Technical Institutes, State Universities, etc., to ascertain the *insulating value* and *moisture absorption* of commercial insulating materials. Here is a summary of the facts so established, of the materials named:

MATERIAL	INSULATING VALUE	MOISTURE ABSORPTION
DRY-ZERO	4.15 to 4.3	14
Corkboard	3.1 to 3.3	28
Wood fibre board Flax fibre board Cane fibre board Mineral wool slab	2.7 to 3.3	66 to 115

DRY-ZERO CORPORATION, 130 N. Wells St., Chicago, Illinois

DRY·ZERO

THE MOST EFFICIENT COMMERCIAL INSULANT KNOWN

WARREN "IGLOOS"

Controlled Quality

DISPLAY CASES for FROZEN PRODUCTS

DEFROSTED in 15 Minutes!

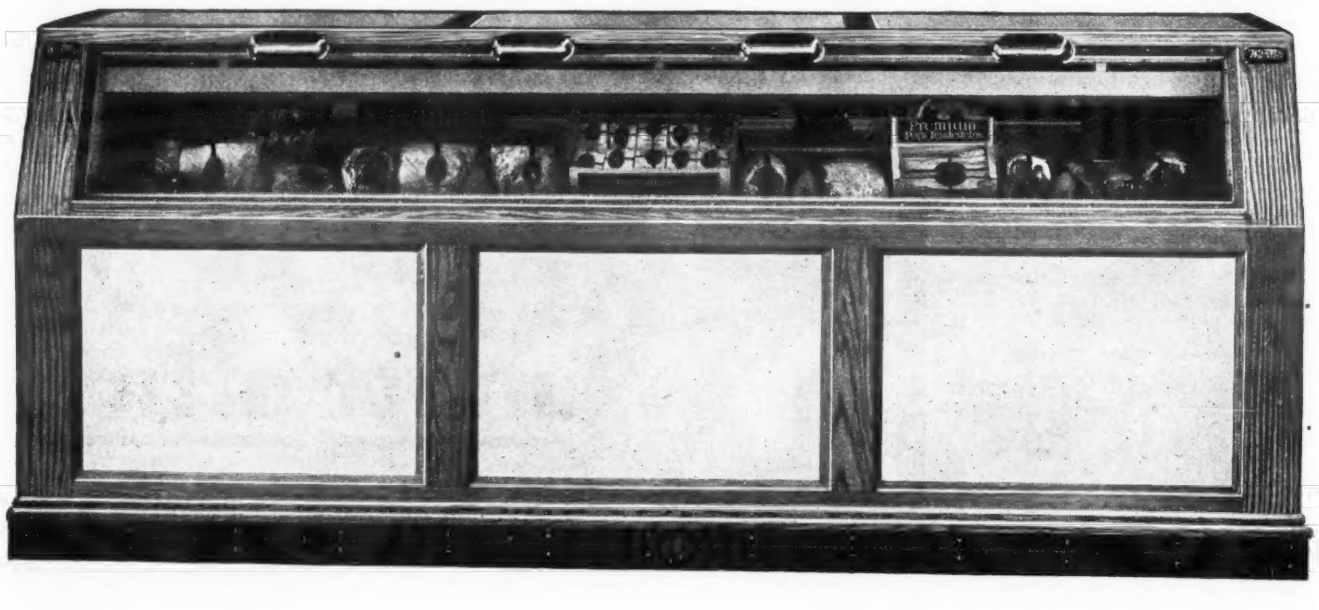
New and Exclusive Method (Pat. Applied For) Completely Defrosts Coil and Circulator Pan. No Possibility of Ice Accumulating in Circulator Pan or Drain Pipes.

Larkin Coils Running Full Length of Case at Top Allow Entire Length and Depth For Storage—A Size and Type For Every Demand—

The "WARREN IGLOO"

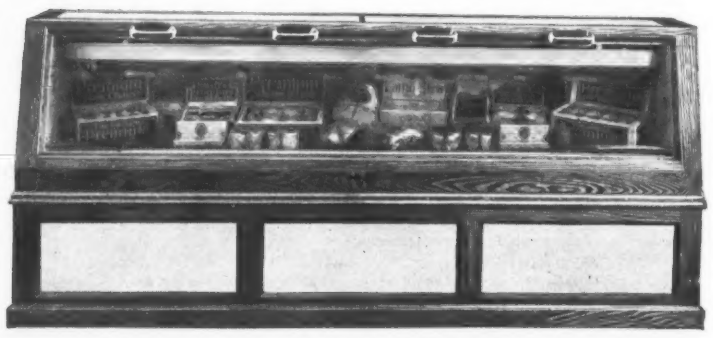
Model---1210

A NEW WARREN CONTROLLED QUALITY PRODUCT Which Meets the New Frozen Product Distribution Method With a Perfectly Adapted Retailer's Display Case.



Rear View of Warren "Igloo" Model 1210

Note the new "Igloo" drawer arrangement which affords quicker service sales, permits withdrawal of frozen products without the raising of the inside temperature any appreciable degree. Gives economy in refrigeration and maximum storage space.



The "Igloo" Junior—Model 1910—In this case our defrosting method (Pat. applied for) is particularly advantageous because it admits of servicing and displaying from same compartment.—No other top display case offers as much storage space.

Perfect Defrosting Accomplished Daily In 15 Minutes Without Opening Doors.

THE Warren "IGLOO" affords the most efficient case for displaying and selling quick frozen food products.

With the coming of this new departure in nation wide distribution every retailer must be prepared.

The Warren "Igloo" in various sizes is of rugged and scientific construction. It reduces running time of machine and achieves remarkable defrosting results.

Heretofore that process has required many hours, often a whole day.

The "Igloo" has been repeatedly defrosted in 15 minutes with a consequent rise of inside air temperature of but six degrees, resulting in less than one degree rise in food products. Recent practical demonstrations, showed uniform 16 to 20 degrees above zero inside temperatures, as possible of maintenance.

A typical example: With an inside temperature of 20 degrees above zero and an outside temperature of 75 degrees above the defrosting required 15 minutes and the inside temperature rise was only six degrees.

The circulating system keeps the coldest air falling downward across the whole case and in no place is this air thrown against the glass.

Specifications include:—Golden Oak finish, Acid Proof Insulated Vitrolite Top to prevent sweat, Triple Plate Glass thickness, Armco Ingot Iron Interior, Heavy Warren Hardware, Six Inch Walls Laminated with Steel Rods and other superior construction details which have made Warren Controlled Quality Refrigerators famous for many years.

Get the best the first time. Investigate the Warren "IGLOO."

Write for Fully Illustrated Literature, Giving Complete Information As to Construction, Sizes and Prices

The WARREN COMPANY, Atlanta, Georgia

Originators and Manufacturers

DISPLAY-STORAGE

(Concluded from Page 7, Column 3)

for display in the base of the display fixture. Combining both functions in one fixture, using one mechanical unit to cool same with one set of coils, temperature controls, etc., makes for economy, and it is less expensive to maintain these sharp freezer temperatures in one fixture than in two, providing this one unit furnishes the necessary volume of storage as before indicated.

Small separate storage cabinets can, however, be operated at moderate cost and may be necessary in some arrangements of equipment. In a combined unit the coils located in the upper or display compartment have the same relative position to the storage compartment as the coils located in the overhead bunkers of the sharp-freezer rooms at packing houses. To prevent the discharge of the low temperature air from the entire storage compartment when a door is opened, this storage compartment should be divided into smaller compartments and the flow of cold air from the bunker overhead checked as the door is opened. This can be arranged with a spring shutter closing across the cold air duct as the door opens.

Temperatures in the storage compartments should be well below the defrosting point of the product with the room temperatures of 85 to 90°.

The framing and insulation of the cabinets must of necessity be heavy, sturdy and efficient. The increased thickness of insulation in the sharp-freezer rooms at your plants is the indication of the requirements in this sharp-freezing equipment. Increased care must be taken to insure that there be no possible condensation of moisture, brought in by the leakage of outside air, in the joints, frame work or insulation, for now that we are dealing with below freezing temperatures, this moisture will frost into and rapidly force same apart and cause disintegration.

Defrosting of the coils of the cooling equipment will be necessary at more or less frequent intervals in order to maintain a clear coil, keeping up the efficiency of operation of the unit and holding the temperatures at the necessary low level. Arrangements should be made so that this can be done without the necessity of removing the product from the display or storage compartments, and in such a simple manner that it will present no problem to the unskilled operator of the equipment.

Mechanical Problems

The detail of the mechanical cooling systems are a problem for the manufacturers of the units to work out. Few of the systems of coil construction in use today are applicable to this work, as their designs are predicated on the air surrounding the coil rising above 33° during the periods when the machine is shut off, so that the collected frost will melt off. In this low temperature work the temperature surrounding the coil is always lower than freezing, and the frost tends to accumulate rapidly. With a direct expansion system, using either sulphur dioxide, methyl chloride, or ammonia, it is possible to by-pass the hot compressed gas discharged from the compressor through the coils, heating them for a brief period, so clearing off the frost without appreciable rise in case temperature. The mechanical equipment to cool both the display and storage compartments should be of ample capacity to produce the necessary temperatures operating not over 16 hours per day under the most extreme conditions of high room temperature; as the life of all mechanical equipment of this type is sharply reduced when operated continuously over extended periods.

The economics of the proposition are interesting and important. Under existing statistics, the average cost of refrigeration in retail markets has been less than 1 per cent and depreciation on equipment approximately another 1 per cent. If the new freezer containers are properly constructed to give at least seven years' trouble-proof and useful service, these percentages can be maintained and possibly reduced. If, however, untried equipment of mediocre construction is used, or present equipment strained into service, the new overhead due to depreciation may reach 3, 4, or 5 per cent, and the cost of refrigeration to operate increased to 2 or 3 per cent. This will dissipate the increased profits which the dealer will have expected, and possibly make his handling of the product show a loss.

Tremendous progress has been made in the perfection of technical methods of production of the quick-frozen meats. Yet, today the problems of display and storage are still a matter of educated guess. Who is most likely to give the answer, to take the hypothetical market and best develop a merchandising fixture that at least will have the fewest potential troubles? The answer is obvious—the heads of such firms as are now making the most improved types of merchandising equipment for fresh meats.

The vital need today is for more field and less laboratory testing to determine the most efficient equipment for merchandising this product to the public.

PROGRESS

Rapid in Last Ten Years

Newark, N. J.—About eighty members of the Essex Electrical League listened to an address by C. E. Greenwood, commercial director of the National Electric Light Association, in the ballroom of the Robert Treat Hotel on Thursday, April 10.

Mr. Greenwood spoke on the subject of "Electric Refrigeration."

"Little progress was made in refrigeration for hundreds of generations," Mr. Greenwood said. "Cave-dwellers learned that the carcasses of their prey kept longer in the cool recesses of their caves; Egyptians cooled water by evaporation, leaving it at night in porous earthen vessels placed on straw in the desert sands; Romans had slaves bring snow from the mountains to cool their wines.

"In more recent times the well and spring-house were used to preserve foods. Then, about 75 years ago, came ice manufacture, making possible the protection of quantities of perishable foods in transportation and storage."

"Until quite recently," he continued, "little or no thought was given to preserving food properly in homes." The electric refrigeration industry dates from about 1899. Since then over seven hundred patents have been taken out by inventors. Only during the last ten years has electric refrigeration in the home become a factor in business, and even today there are only a few well-known manufacturers.

"Public knowledge of the proper temperatures for food preservation is still slight," Mr. Greenwood said.

"Only about 50 per cent of all families use ice at all, and only about 15 per cent use it the year round."

Mr. Greenwood referred to the educational campaign conducted by the National Electric Light Association, which represents the electrical industry, last fall.

"This campaign will be renewed," he said, "under a three-year program, to further public knowledge that below 50 degrees Fahrenheit food is safe from the attacks of bacteria and molds."

Mr. Greenwood stated that electric refrigeration had added almost a billion kilowatt hours to the sales of electric power in this country to date.

"The new quick-freezing process recently invented by Clarence Birdseye," he said, "will revolutionize the merchandising of perishables. Meats and fish retain their full nutriment and flavor and will soon be sold ready-cut and packed as over-the-counter merchandise. The process will be applied to fruits and other foods."

Mr. Greenwood called attention in his talk to the great changes going on in living conditions. "In 1921," he said, "19 per cent of the domestic construction in Newark consisted of single family wellings, 49 per cent two-family, and 32 per cent multiple family. In 1926 the respective proportions were 14 per cent single, 34 per cent two-family, and 52 per cent multiple. This trend points to a proportion of construction in 1931 of 10 per cent single family, 15 per cent two-family, and 75 per cent multiple or apartment dwellings.

"In Orange," he said, "the figures for former years point to 20 per cent single, 5 per cent two-family, and 75 per cent multiple family dwellings as the proportions for 1931 construction."

Mr. Greenwood was introduced by Philip H. Harrison, treasurer of the League and president of Philip H. Harrison & Co., distributors of General Electric refrigerators in northern New Jersey.

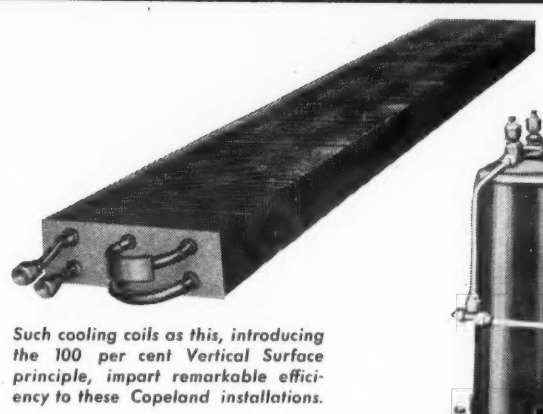
ROSTER

TWENTY-FOUR companies have announced equipment designed for retailing and storing the new quick-frozen products in the columns of the NEWS. Manufacturers included in the first (March 26), second (April 9), and third (April 23) Refrigerated Food Sections are as follows:

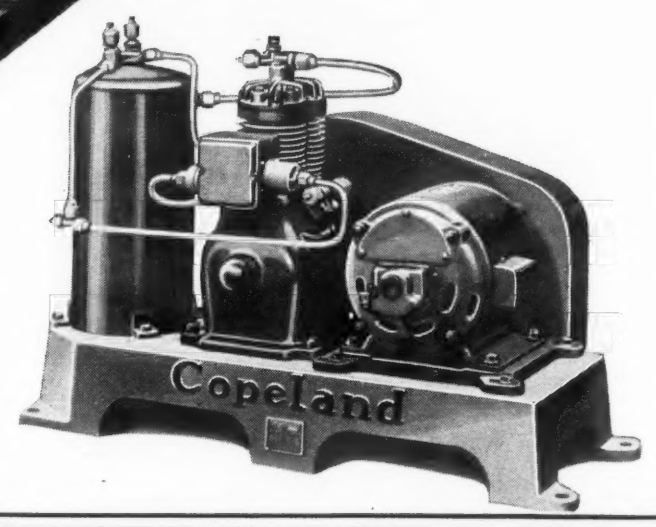
American Foundry Equipment Co.
Blazek & Co.
Commercial Refrigerator Mfg. Co.
Downing Mfg. Co.
H. Ehrlich & Sons Mfg. Co.
Elkins Refrigerator & Fixture Co.
Federal Refrigerator Co.
Ford Refrigerator Co.
Frigidaire Corp.
General Electric Co.
Gibson Refrigerator Co.
C. V. Hill & Co.
Hussmann Refrigerator Co.
Koch Butchers Supply Co.
Ligonier Refrigerator Co.
Marsden Store Fixture House.
McCray Refrigerator Co.
Northey Mfg. Co.
Nu Way Fixture Co.
Ottenheimer Bros.
C. L. Percival Co.
Servel, Inc.
Smoot-Holman Co.
Warren Co.

ANNOUNCING

the Successful "Frozen Foods" combination



Such cooling coils as this, introducing the 100 per cent Vertical Surface principle, impart remarkable efficiency to these Copeland installations.



This is one of the sturdy condensing units that are now available with simple special equipment, adapting them for use with the Warren Frozen Foods Cabinets.

. . . the New Copeland-Warren Combination now in Production and Available to Copeland Distributors and Dealers and Prospective Users of Frozen Food Equipment.

Consistent with its record of progressive manufacture, Copeland has developed electric refrigeration equipment for the storage and display of foods preserved by the new quick-freeze process. Copeland now presents a mechanical unit which operates with the new Warren Igloo Frozen Food Storage and Display Cases!

This modern Copeland equipment consists of standard condensing units, with thoroughly tested, simple special equipment, which enables the user to defrost both coil and pan *in 15 minutes — without raising the temperature of foods!*

Copeland condensing units are strong and sturdy, and have proved their ability to deliver consistent, economical service year after year.

The merchant who installs the Copeland-Warren combination obtains the finest equipment in the frozen food display case field. And the distributor or dealer who handles this equipment is directly in line to profit by the rapidly increasing demand for *proved and practical* equipment of this kind! Write for further information to Copeland Sales Company, Mount Clemens, Michigan.

COPELAND

DEPENDABLE ELECTRIC REFRIGERATION

PREPARATION

Of Quick-Frozen Foods Is Simple Task

PANS and heat-proof platters and planks which "make dishwashing easy" are very useful in the preparation of the new quick-frozen products, Nell N. Nichols states in the current issue of *Better Gardens and Homes.*

"For preparing and serving the frozen fish fillets now on the market, I have found the heat-proof platters particularly nice. Now that the frozen fish is being distributed quite generally so that even midland people can enjoy fresh sole, haddock, halibut, cod, and flounder, how to cook them may be somewhat of a question to many people. Quick-frozen fish are ready to be cooked when they reach the home. No cleaning, scaling, or trimming is necessary. Of course, there are a dozen different ways that we may cook the fillets, but the platter method is so easy and preserves the natural juices of the fish so well that I want to tell you about it.

"But first I should say that meats and poultry may also be cooked and served on either a plank or a heat-proof platter. Now that frozen and packaged meats are beginning to appear in the markets we can begin to enjoy them, too. At the present time, beefsteak, lamb chops, pork chops, and spring chicken are offered in this form. But in the spring-time the cook's fancy and the family's appetite turn to fish.

"After the quick-frozen fish is delivered to the home it requires the coolest space in the refrigerator for the period of waiting, because there is no necessity of thawing it out in advance of cooking. If it is to be kept many hours and a mechanical refrigerator is yours, it is well to lay the package in one of the freezing trays. About 30 minutes before the cooking is to take place, remove the paper and sprinkle a generous amount of lemon juice on the fish. Then return it to the refrigerator to await attention. Before cooking, the fish may be dredged with flour or not, as you prefer. After it has been arranged on the oiled platter or plank, it is dotted with butter, placed in a pre-heated oven or broiling oven, and cooked until brown. It will be cooked thoroughly if 10 minutes to the pound are allowed in a hot oven (450 degrees). I set the plank on the top shelf of the oven to facilitate the browning, and at least once during the cooking the fish is basted with melted butter. Salt is added when the cooking is completed.

"Here are some menus for meals in which the plank or oven-proof platter may be used to advantage:

Chilled Fruit Cocktail
Broiled Fish Fillets with Parsley Butter
Broiled Tomatoes Broiled Potatoes
Watercress Salad
Rolls Jelly
Raisin Pie
Coffee

Tomato-Juice Cocktail
Broiled Steak with Mushrooms
Buttered Cabbage Broiled Potatoes
Lettuce Salad
Rolls Jam
Caramel Layer Cake
Coffee

Fruit Cup
Broiled Smoked Ham Buttered Spinach
Broiled Bananas or Sweet Potatoes
Cabbage, Pineapple, and Cocoanut Salad
Baking-Powder Biscuits Honey
Refrigerator Cake
Coffee

BIRDSEYE

"May I congratulate you on the appearance of the Refrigerated Food section?" — Clarence Birdseye, General Foods Company, Gloucester, Mass.

LIG-O-NIER PORCELAIN-CLAD
DISPLAY COUNTERS NOW

This is the age of color. In every business color is being used to attract public favor, to give new zest to selling. The new Ligonier Porcelain-Clad Colored Display Counter is now available in delicate pastel shades of blue or green, or in pure white. In either of these attractive colors it will brighten up food stores and make meats and other perishable foods on display more tempting and inviting. The new Ligonier Porcelain-Clad will last a business lifetime, and give 100% unobstructed display. It is engineered for mechanical refrigeration. Like all Ligonier Refrigerator Equipment it is built of the finest materials by Ligonier master craftsmen. Ligonier Refrigerators, Coolers, and Grocery Boxes all of Ligonier fine quality are built in a wide variety of models and sizes to meet every food store need. Write for catalog and full information.

AVAILABLE IN BLUE GREEN OR WHITE

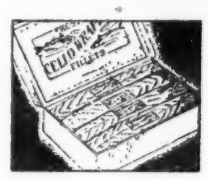
LIG-O-NIER
REFRIGERATOR COMPANY
LIGONIER, IND.
A Division of ALLIED STORE UTILITIES CO.
AGENCIES IN ALL PRINCIPAL CITIES

Fish Lead the Way in Proving

Introducing Mrs. Detroit to *Seafresh *Frosted Fillets

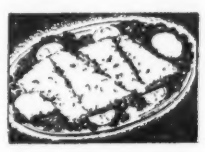
...the finest ocean fish that ever came to town

Easy to Buy



Easy to Cook

Easy to Eat



Pass the good word to your family—to prepare for the greatest taste-thrill these Lenten days could bring. *Seafresh Frosted* Fillets! Ocean fish that are actually ocean-fresh! Fish as temptingly full-flavored as though you yourself had hooked them and cooked them off the banks of Georgen!

It sounds as though we were announcing a miracle—and we are! For a way has been found to freeze fish so quickly that the flavor is sealed in—and to keep the fish in this same fresh state until you are ready to cook them.

This wonderful new freezing method is the Birdseye Quick-Freezing Process, invention of a famous Massachusetts scientist. Unlike other freezing methods, the Birdseye Process freezes fish *quickly*, at a North Pole temperature of 50 degrees below zero. And it freezes fish *in* the package. There are no air spaces about the fish to cause them to dry out. There is no chance for the food-cells to break down. Instead, the fresh flavor of the fish is *sealed in*—and it stays sealed in until you drop the fish fillets into the pan.

Seafresh Frosted Fillets come to you daintily wrapped in air-tight, transparent Cellophane paper. They have already been cleaned and boned—they are ready to cook. It's the cleanest, neatest, easiest way to buy fish that you have ever seen.

And these fillets are just as easy to cook. Just take off the wrapper and drop them in the pan—that's all. And when they are cooked—what a dish! You simply must taste them to know how good they are!

Dealers all over Detroit sell *Seafresh Frosted* Fillets. Buy some today—as many as your family requires. Broil them, bake them, fry them—cook them any way you please. You'll have the best fish-dish that you've ever eaten in Detroit. ©1930, G.F. CORP.

FROSTED CELLO WRAPPED FILLETS — Look for this Label—it identifies SEAFRESH FROSTED FILLETS

*Seafresh *Frosted Fillets

*REG. U. S. PAT. OFF

FROZEN BY THE BIRDSEYE QUICK-FREEZING PROCESS

This type of advertising is being used in Mid-West newspapers

NO matter how great success quick-frozen meats, vegetables and fruits may attain in the next few years, they will owe a debt to the humble fish, and to the men who have been the pioneers in the development of the quick-frozen fish industry. Quick-frozen fish have paved the way for quick-frozen meats in many sections of the country, and many retail merchants are interested in quick-frozen meats today because they have been selling frozen fish profitably for the last four or five years.

When the Institute of American Meat Packers appointed a committee to study quick freezing a year ago, it was to the famous fishing port of Gloucester that the committee turned for information. As a matter of fact, it was the presence of so many quick-frozen fish in the markets of the middle west that was largely responsible for attracting the attention of the packers to the subject.

The two producers of quick-frozen fish which have gained the greatest public attention are the General Seafoods Company of Gloucester, Mass., which is now a subsidiary of the General Foods Corporation, and the Atlantic Coast Fisheries, which have a plant for the preparation of frozen fish at Groton, Conn.

The two men who are generally regarded as the leaders in the industry are Clarence Birdseye, of General Seafoods, and Dr. Harden F. Taylor, of the Atlantic Coast Fisheries. They are utterly unlike, they entered the industry by different paths, but any discussion of the part their companies are playing in the production and marketing of frozen fish, must necessarily have much to say about them both.

Mr. Birdseye became interested in quick-freezing as a result of his experiences in Labrador and other northern regions, where he had an opportunity to watch and study the effects of extremely low temperatures on fish.

A Real Fish Story

And for the benefit of those readers of the Refrigerated Food section who have not read the story either in these columns or elsewhere, the tale of the frozen fish which came back to life will be repeated. No mention of Clarence Birdseye would be complete without that tale. It seems that he was fishing through the ice on the Labrador Coast one day, and as he pulled out the fish, threw them into a pile of snow where they became frozen stiff. The temperature was well below the zero mark and they froze almost immediately. Later on when he had returned to his cabin, the fish not only thawed out, but showed signs of life, and seemed none the worse for having spent a few hours in a state of suspended and solidly frozen animation. It is this phenomenon which is generally credited with starting Mr. Birdseye's mind to thinking about the possibilities of quick-frozen foods, although the chances are that he had been doing considerable thinking on the subject before he saw the fish return to life. He is a quick thinker as well as a quick freezer, and while the fish probably spurred his thoughts, they possibly do not deserve quite so much credit as they usually get.

And lest anyone believe that the above chronicle is only another fish story, it may be well to state that Mr. Birdseye is not the only man who has seen fish come back to life after being frozen in northern climes. Other fishermen have noted the same phenomenon.

But no matter what started his thinking, Mr. Birdseye's mind kept right on considering ways and means of freezing fish in such a way that they would preserve the properties of fresh fish when thawed. When he returned to the United States he embarked on a quick-freezing venture which did not meet with all the success which he had anticipated, but he stuck to the job, made another start, and the present General Seafoods Company is the result. There will be more later about that organization, but in the meantime, Dr. Taylor must have his turn.

Helping the Fisherman

Harden F. Taylor came into the frozen fish business by way of the United States Bureau of Fisheries. After the war, the fish industry was in a thoroughly unhappy condition, and the Government decided that something ought to be done about it. Dr. Taylor was one of the men in the Bureau of Fisheries who undertook the task of studying the situation to see what measures should be taken to help the fishermen.

His studies led him directly to the various methods of freezing, which had been used in the past. He studied all the patents and literature on the subject, both at home and abroad, and became the recognized scientific authority on the subject in the United States. Later he left the Bureau of Fisheries and went with the Atlantic Coast Fisheries, of which he is now the vice-president in charge of research. In appearance as well as in fact Dr. Taylor is the learned man of science. No one could mistake that upon meeting him and hearing him talk. That does not mean that it is difficult to listen to him talk. Quite the contrary. At both the Chicago and New York meetings recently held by the Institute of American Meat Packers, to acquaint its members with the latest developments in quick-frozen foods, Dr. Taylor was heard with rapt attention. He spoke at great length, each time at the close of an all-day session, but he showed such a complete knowledge of his subject that everyone who heard him was sorry when he stopped.

Where Opinions Differ

Right here it might be well to mention that Dr. Taylor is not in accord with most of the others engaged in the quick freezing of fish and other products. He does not believe that the speed of freezing is so important a factor as others deem it to be. In a recent letter to the editor of ELECTRIC REFRIGERATION NEWS he reaffirmed his stand on that point, saying:

"In fact, the discussion in that number (the March 26 issue of the Refrigerated Food section. Ed.) and, indeed, in most of the current published matter on this subject in various publications, would create the impression that rapid freezing alone is the great advance in the distribution of perishable foods. In fact, we regard rapid freezing in itself as of relatively minor importance. . . . The processes which we regard as of major importance are not concerned with the speed of freezing at all, but with the preparation for freezing."

That statement by Dr. Taylor leads to a discussion of the process to which each fish or fish fillet is subjected before being frozen. Extensive experiments have convinced Dr. Taylor that mere quick freezing does not prevent the fish from losing certain fluids or juices which are essential to good flavor and sound condition when the fish are defrosted. He has produced a substance into which the fish are dipped before

(*Concluded on Opposite Page*)

Worth of Quick-Frozen Products

Direct from the Atlantic in the Marvelous New ICELESS Refrigerator CARS!

Nordic Whiting

DRESSED Sweet Ocean Fish With That Just-Caught Flavor!

DELICIOUS "PERCH" OF THE SEA

All Skinned—Ready to Cook and Serve!

SPECIAL INTRODUCTORY SALE

FOUR DAYS ONLY!

Delicious OCEAN Fish

Fresh as the Day When Caught

Something new and amazing! *Tender*, flavory portions of *choice, deep-sea Whiting* ("perch" or "Jack salmon" of the sea), chilled by the exclusive Nordic method so that all nutrition and *fish juices* are *sealed in.*

Thousands of families, who previously avoided serving fish, soon will be buying these *handy-size cuts* of Nordic Whiting and enjoying a most delicious treat! You can bake, boil, broil or fry—or serve in salads, pies and sandwiches.

Ready to cook and serve in 15 minutes! No fuss, no *"fishy" odor*, no work. (The small center bone lifts right out before or after cooking). These Nordic-processed seafish can be kept in the refrigerator next to butter or milk. *"The pick of the catch"!*

Special Sale Price

29c Lb.

Regular 40c Value

RICH IN HEALTHFUL MINERALS

Prof. Lewis B. ALLYN, famous food authority, says "NORDIC WHITING show a high food value. Iodine is present in comparatively large amounts. These WHITING are splendid food fish, rich and appetizing, with an abundance of valuable mineral salts . . . the flavor sweet and excellent."

FRIED

Roll in cracker crumbs or corn meal and fry in deep fat or cooking oil about ten minutes. Have fat or oil smoking hot.

BROILED

Season with salt and pepper, sprinkle well with oil and broil over a brisk fire to a nice color, about eight minutes.

Distributors at Wholesale

ROBBINS, Inc.

178 Florida St. Phone Broadway 8284

OTHER NORDIC PRODUCTS

Fillet of Haddock
Fillet of Pike
Fillet of Sole
Fillet of Cod
Shrimp
Scallops
Finnan Haddie
Fried Nordic Fish

Leave Your Order Today At All First Class

Independent Food Dealers

Milwaukee recently had a chance to try Nordic products

(*Concluded from Opposite Page*)

freezing, which he claims causes the fish to retain these juices while in storage. Information in regard to the exact nature of the process has been withheld by Dr. Taylor, but there are all sorts of rumors in regard to its nature. The most popular one is that the fish are dipped in a sodium solution of some sort.

Whatever the process may be, Dr. Taylor and the Atlantic Coast Fisheries are using it and are selling large quantities of fish. Its importance is being studied and watched by others engaged in the frozen fish industry.

Storing the Fish

To return to General Seafoods and the Birdseye system. The plant at Gloucester is equipped to handle fish in large quantities and has storage space for more than 500,000 pounds of fish. This makes it possible to handle an abnormally large catch, prepare and freeze the fish quickly, and then put them into storage and supply future demands as they occur. It is this ability to hold a large catch of fish indefinitely instead of throwing them on the market all at once, that is one of the great factors in the success of the frozen fish business. In the old days, fish had to be eaten soon after they were caught; now they can be held and marketed when the demand for them arises. Only a month or two ago the Gloucester plant froze 500,000 pounds of fish in five days.

Birdseye fish are nearly all packaged before being frozen, and that fact is regarded as one of the greatest assets of the Birdseye process. By freezing products such as fish fillets in packages, great economies of space are effected, air pockets are eliminated, and other beneficial results are claimed.

The actual freezing is accomplished by placing the fish fillets on endless metal belts. The boxes of fish then pass under an upper belt and, while between the two belts, are frozen from both sides. Brine is sprayed on the reverse sides of the metal belts while passing through the freezing area.

The refrigeration is supplied by a 50-ton carbon dioxide system, and each of the two belt systems at Gloucester has a capacity of 1,200 pounds per hour.

The frozen fish are stored at a temperature of about —15° F. while awaiting shipment. They are kept in wooden boxes, but when shipped are packed in insulated containers made of corrugated cardboard. Mr. Birdseye, at the New York meeting of the meat packers, stated that his container cost was 1.18 cents per pound. He figures his refrigeration costs at about 0.75 cent per pound, making his total 1.93 cents per pound. This figure, however, does not include cleaning and filleting.

The word "Frosted" has been registered by the General Seafoods Company, and "Seafresh Frosted Fillets" are being extensively advertised and marketed in various parts of the country. A typical advertisement of the Birdseye fish is shown on the opposite page. It appeared in the Detroit newspapers during the Lenten season. Large quantities of frosted fish are shipped from Gloucester to all parts of the United States, many carloads going to the middle west, where the frosted fish have become increasingly popular in the last few years. They are packaged neatly, bear the General Seafoods label, and therefore carry the measure of protection that goes with all packaged goods produced by reputable organizations.

"Frosted" and "Nordic"

Just as the word "Frosted" means a Birdseye product, the word "Nordic" means a product of the Atlantic Coast Fisheries. That trade-mark can be seen daily as the Nordic fleet of freight cars, refrigerated by the silica-gel process, carry frozen fish to distant points.

The main plant of the Atlantic Coast Fisheries is on the Thames River at Groton, Conn., although the company maintains another smaller plant at Jacksonville, Florida, for the freezing of shrimp.

After the fish have been put through the Taylor process at Groton, they are frozen on a Cooke freezer. This differs from the Birdseye freezer in that it has only one belt, on which the fish fillets are placed. There is no upper belt and the fish are frozen from one side only. The belt really is an endless chain of aluminum plates which pass over tanks filled with brine. These plates have fins on the lower side which dip into the brine. The fish are frozen at a temperature of -20 degrees F., and then pass into another room, where they dip into brine at 60 degrees F. The purpose of this dip is to loosen the fish from the plates. It takes from 35 to 40 minutes to freeze the fish, and the three freezers at the Groton plant have a capacity of about 69,000 pounds per 24-hour day.

The wrapping is done after the freezing has been completed, a special waxed parchment being used. The fillets are then packed in corrugated containers which are tightly sealed. They then go into the storage room, where the temperature is held at —10° F.

The popularity of the Nordic fish is pretty well evidenced by the advertisement from a Milwaukee newspaper, which accompanies this article. It shows a train of Nordic cars, and is an actual picture, and not a figment of the imagination. These cars have carried the Atlantic Coast Fisheries products into every state.

Not all of the frozen fish are produced by the Atlantic Coast Fisheries and General Seafoods. Although they are the giants of the industry, they have plenty of competitors, who are selling large quantities of frozen fish. Near the General Seafoods plant at Gloucester is the plant of the Gorton-Pew Fisheries, one of the many organizations which use the Kolbe system described in the April 9 issue of the Refrigerated Food section. At Boston there are a number of freezing plants, including those of Whitman, Ward & Lee, the Bay State Fisheries Co., the Booth Fisheries, and the Quincy Market Cold Storage Co.

Large quantities of fish are being frozen in Canada, and many are being sent to the United States from the Canadian plants. Among the Canadian organizations in the industry are the Leonard Fisheries, Ltd., of Hawkesburg, Nova Scotia; the Seven Seas Fisheries of Liverpool, Nova Scotia; the National Fish Co., of Halifax, and the Kolbe Fisheries, of Port Dover, Ont.

Several plants at various points on the Great Lakes are using the Petersen system, devised by Paul W. Petersen, who was one of the early workers in the industry.

Few Statistics Available

Just how many pounds of fish are being frozen each year in the United States and Canada is an open question. The plants are scattered, the industry is relatively new, and it depends for its source of supply on a variable factor.

Many of the problems of the industry, especially those of distribution, have still to be solved. For example, the old question of suitable cases in which the retailer can keep his frozen fillets, is a troublesome one. As Dr. Taylor has pointed out on several occasions, fish alone find it a difficult task to bear the expense of refrigerated display and storage equipment. His company has been seeking a moderate priced case which the retailer could afford to devote to fish alone, and at the same time has cherished the hope that with the development of new frozen products the opportunity will come to sell fish, meats, and vegetables from the same case, thus distributing the expenses more equitably.

If that comes about, the frozen meats and vegetables and fruit will be able to pay back some of the great debt they now owe to the fish. The story of frozen fish is getting to be an old one; they are an accepted product, but it is owing to that acceptance that the public is now manifesting such great interest in the entire range of frozen products.

Ice Cream Advertising

THE Bureau of Business Research of Boston University made a study of the effectiveness of ice cream advertising, in connection with its survey of dealer profits on ice-cream advertising, is said to have shown the following media the most effective, in the order of their importance:

(1) Soda fountains themselves and the inside of stores.
(2) Window displays.
(3) Newspapers.
(4) Delivery trucks.
(5) Billboards and signs.
(6) Street cars.
(7) Magazines.
(8) Roadside stands.

—From *Domestic Commerce.*

TAYLOR

"We compliment you on the thoroughness with which you have done the first number of the Refrigerated Food section."—Harden F. Taylor, vice-president for scientific research, Atlantic Coast Fisheries.

CUTTING

Machine Helps to Prepare Packaged Meats

ONE of the latest developments in the meat industry, a slicing machine developed by the Link Belt Company, of Chicago, for cutting pork loins, is described in *The National Provisioner*, which is constantly keeping in touch with the newest trends in that field.

This machine for facilitating production of cut meats is of the high speed type and has a capacity of 150 chops, ⅜ to ¾ inch thick, or 285 slices of bacon, per minute. A three-horsepower motor furnishes sufficient power for the fast operation of the device.

The knife is semi-circular in shape, the meat being fed to it by a feed screw of the brake-controlled type, to insure uniformity of slices. The meat grip is designed to stop when the last chop has been cut from the piece, and to return to its starting position automatically.

"The changes in meat merchandising," the article states, "of which quick freezing of retail cuts and branded fresh cuts in transparent packages are examples, have centered attention on distribution problems.

"With the probable reduction in the size of the average meat order, the profit per unit of sale is smaller and extra expense must be cut. For these reasons the new merchandising methods call for a much higher degree of efficiency in the meat plant than has existed heretofore. Increased use of conveyors, automatic wrapping machines and similar mechanical equipment will be called for to get maximum production at minimum cost. It may be expected that equipment to fit requirements will be developed as the need for it becomes apparent."

The **ORIGINAL** *and* **Only Genuine**

The **New Dry Expansion** 100% VERTICAL SURFACE **LARKIN COILS**

FOR ELECTRICAL REFRIGERATION

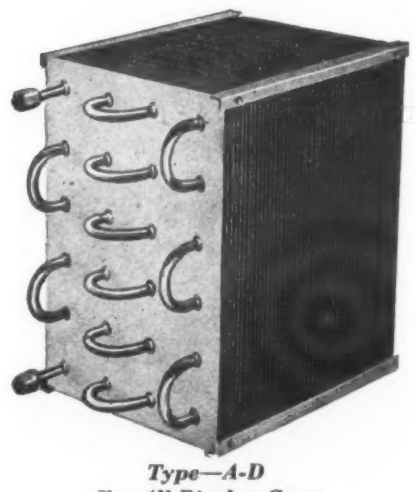
PATENT APPLIED FOR

Embodying the Original Aluminum Plate Cross Fin Coils — 100% Vertical Surface

Eliminate Defrosting *and* Dehydration Problems

STANDARD FACTORY EQUIPMENT ON THESE NATIONALLY KNOWN REFRIGERATION SYSTEMS—

Absopure, DETROIT, MICH.
Copeland, DEPENDABLE Electric Refrigeration, DETROIT, MICH.
WILLIAMS ICE-O-MATIC REFRIGERATION, BLOOMINGTON, ILLINOIS
UNIVERSAL, DETROIT, MICH.
TRUPAR, DAYTON.—OHIO
ROYAL, The A. J. Deer Co., HORNELL, NEW YORK.
KULAIR, PHILADELPHIA, PA.
JACK FROST REFRIGERATION, ltd., TORONTO-CANADA
POTTER, PORTLAND, O.



Type—A-D
For All Display Cases
Made in 10 Sizes

For the genuine. There is a type and size of Larkin coil for every type of commercial refrigeration.

Get complete information on their application, write any of the manufacturers listed.

Larkin-Warren Refrigerating Corporation

Originators and Manufacturers

ATLANTA - GEORGIA

Refrigerator Proves Adaptable

Chicago Distributor Finds It Suitable for Quick-Frozen Foods

Chicago, Ill.—R. Cooper, Jr., distributors of General Electric commercial refrigerators, states that merchants show a decided interest in electric refrigerators as a means of merchandising quick-frozen foods.

"The electric refrigerator lends itself well to this new method of merchandising. The General Electric 'Package' commercial refrigerator is easily adaptable to this new use because of the adjustable shelf space for the most advantageous arrangement and display of small packaged food products as well as the postive temperature control.

"Food merchants are intensely interested in the method of merchandising the new foods, as it means a great saving in time and space. Cuts of meat reach him already trimmed, cut and wrapped in packages, ready to be taken out of the refrigerator and served to the customer.

"At least 60 per cent of the qualified prospects who see the commercial line eventually become buyers," Mr. Cooper stated. "The outstanding success of our recent commercial show has definitely pointed out to us that a real volume of business can be enjoyed if we capitalize on commercial possibilities."

Refrigerators full of frozen and packaged foods are conspicuous in the quarters of R. Cooper, Jr., Chicago G. E. distributor.

The Refrigerator as a Necessity

Home Service Workers Usually Have Woman's Viewpoint

BY EDWINA NOLAN

Home Service Director, Refrigeration Department, General Electric Company

HAVING passed the so-called luxury stage and having entered the field of necessary household equipment, the electric refrigerator should be set forth in its true light.

It is not merely a device by which frozen desserts and fancy salads may be made. That is the luxury angle, and all very nice.

Its true function is as a labor-saving appliance, as a protector of the family health, as a means of eliminating spoilage of food, as an aid to marketing and the planning of meals, and as a general all-around convenience.

Electric range manufacturers have spent years educating the public to the advantages of electric cookery. The electric refrigeration industry is doing a big service now in educating the general public to the benefits of refrigeration cookery, but we should be sure that we stress the main points of the refrigerator and not leave the impression that it is merely an aid to entertaining. Let's drive home the outstanding fact that the refrigerator is a household necessity, and let us show the housewife just where it would be economy on her part to buy one.

Who is better equipped to do this work than another woman who understands the homemaker's problems? That is the reason that the home service department in a distributor organization is valuable.

About a year ago the electric refrigeration department of the General Electric Company determined to make a thorough study of the subject of home service and of how a home service department could and should function. We learned that some distributors, seeing the need of such an activity, engaged the services of someone to do the work locally. Other distributors had no definite idea of just what should be done.

Our study of the situation convinced us that the plan adopted by most manufacturers—of having a large home service department with many assistant directors traveling throughout the country—would not apply to the best advantage with our set-up. So we built our home service bureau at Cleveland to function more as an educational center and as a place for the distribution of ideas. We feel that each distributor knows his own needs better than anyone else, and that with his own home service director he is able to do a much better job than would someone from the national headquarters, whose visits would, of necessity, be more or less spasmodic.

Today a large number of our distributors have their own home service departments. There is no one set of rules to govern their operations. One home service director might hold daily lectures throughout the year. Another might devote most of her time to calls upon users, explaining the various uses of the refrigerator in detail to the buyer. Others conduct demonstrations from time to time. Each functions in her own way, and in such a manner as best fits the needs of her particular territory.

The home service bureau at Cleveland keeps in close touch with the activities of the distributor home service directors; acts as a clearing house for new ideas and new activities; brings the directors together from time to time for general discussion of problems, and, of course, assists in special campaigns conducted by distributors or utility companies. At Cleveland, too, we conduct continuous experiments in the proper care of perishables and in the making of new dishes through the use of the refrigerator. Results of these tests are passed on to the distributor home service women.

A most successful meeting of our home service organization was held recently, with more than a half hundred home service directors of General Electric distributors, utility companies and other corporations attending. At this conference we had as speaker guests Miss Katherine Fischer, director of Good Housekeeping Institute, and Dr. Louise Stanley, chief of the bureau of home economics of the United States Department of Agriculture, Washington.

This conference, which sets the pattern for future meetings, was productive of much good.

One of the points emphasized by speakers at the conference was the value of having the home service bureau call upon each new purchaser and explain the uses of the refrigerator in order that the housewife could obtain the utmost from its use. Other points stressed were: 1—Conducting demonstrations to prospects. 2—Giving demonstrations to owners. 3—Educating sales people from the woman's viewpoint. 4—Obtaining proper and effective distribution of recipe books. 5—Co-operating with local food organizations and manufacturers. 6—Co-operating with women's clubs, organizations and educational societies and utilities. 7—Obtaining the co-operation of owners in reaching new prospects.

Some of our home service bureaus are operating on quite an extensive scale. For instance, at "Zero" Park Street, Boston, one finds the home service bureau located in its own home. There a real treat awaits visitors, who find themselves in a beautiful, restful women's club, right in the heart of the shopping center—a club embodying many unusual ideas which combine home educational features with the comforts and conveniences of a club, all of which are free to club members and their guests. Every user of a General Electric refrigerator automatically becomes a member of this club.

Upon entering, one senses cordiality in an informal atmosphere of refinement. Lectures and practical demonstrations are conducted at 2 o'clock each afternoon.

Other distributors have equally efficient home service bureaus, although their method of operation differs with the community. Some hold regular teas and demonstrations; others may conduct special luncheons for women's clubs, followed by bridge. The work of some is identified with cooking schools and home economics activities.

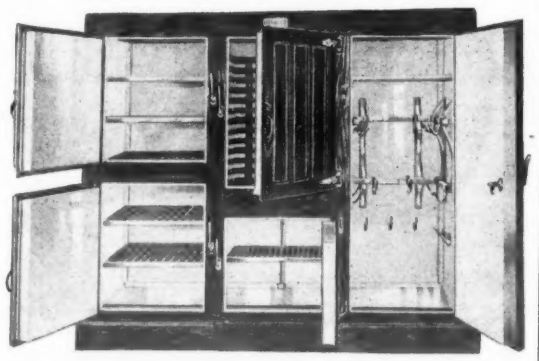
All in all, we feel that the home service directors are performing a most valuable service, not merely in an educational way, but in the making of new friends for the product, new prospects, who eventually will turn into customers.

Edwina Nolan

Built to Sell *because* it's Built to Serve

Refrigeration service is not confined to seeing that a mechanical unit performs as expected. A large part of the service required by hotel, restaurant and grocer users must be delivered by the **refrigerator.**

You guarantee that your service, in this important respect, will be distinctly superior, by recommending and installing the



HERRICK Storage or Display Refrigerator

for Electrical *or* Mechanical Units

The HERRICK uses most effectively the cold created by a mechanical unit—first, by its scientific system of circulation, second, through its remarkable construction which retains the needed low temperatures at a minimum operating cost.

The flow of cold air in a HERRICK reaches every cubic inch of space and eliminates interchange of odors or flavors. Triplex insulation—a HERRICK feature—results from interior and exterior construction of non-heat-conducting materials. Walls and doors contain extra thick packing of HERRICK Insulation—one of the most efficient obtainable. Doors are triply sealed against escape of cold air.

This remarkable service of the HERRICK is climaxed by the long life construction which assures long continued operation at peak efficiency.

Write for catalog of HERRICK commercial models.

HERRICK REFRIGERATOR CO.

1005 Water Street, Waterloo, Iowa

STRAWBERRIES

Ice Cream Manufacturers Tell About Frozen Fruit

MUCH of the marketing of frozen berries has been done thus far by the manufacturers of ice cream. Berries and ice cream have long been allies wherever the famous "sundae" is sold, and when the new frozen berries came on the market, ice cream producers were naturally among the first to become interested.

The marketing of frozen berries through ice cream channels has been going on long enough to provide some valuable data in regard to the public acceptance of the new products. An article in the April issue of the Ice Cream Trade Journal, which is printed herewith, details the experience of various ice cream manufacturers in the handling of frozen berries.

THE past winter marked an extension of effort on the part of the industry to distribute frozen fruit through the medium of ice cream retail stores as a means of increasing business during the cold months of the year.

A survey of manufacturers indicates the consensus that the distribution of frozen fruit through ice cream outlets still remains in the experimental stage, with many problems to be solved before the business can be considered as having more than fair sales possibilities. None of the manufacturers participating in the survey has sold anything other than frozen strawberries.

Fresh Fruit Competes

Due to the many qualifying conditions obtaining during the past winter, among them the competition offered the frozen strawberries by the heavy market in fresh strawberries in the larger cities, the majority of the ice cream manufacturers have not rejected the sales possibilities of the frozen berries, but definitely believe that the decision to enter the field should be made only after careful study.

The various conditions surrounding the sales of the frozen berries during the past few months, together with the advantages and disadvantages recog-

(Concluded on Page 16, Column 1)

SATISFACTION

(*Concluded from Page 1, Column 4*)

scheduling week-end special combinations, offering one meat item and one vegetable item at an attractive price. On Friday and Saturday, April 11 and 12, the special combination consisted of a one-pound sirloin steak (seventy-nine cents) and two packages of spinach (twenty cents), a total value of ninety-nine cents, which was sold for seventy-nine cents. On Friday 42 of the specials were sold, 29 of which were repeats, and 13 sales to new customers. On Saturday the sales jumped to 419, of which 281 were repeats and 138 sales to new customers.

One of the star customers of the entire campaign was a youngster who came in one day and handed a note over the counter which read about as follows:

"Please give Willie a package of Birdseye Frosted steak."

Willie got his steak, and a few days later advertisements in the Springfield papers pointed out that when mothers send their children to the store for packaged meats they must place reliance on the producer whose name the package carries. The advertisement, which attracted much attention, was headed: "Taking the Guesswork out of Meat Buying."

The following statement was issued today by the General Foods Corporation:

"General Foods Corporation has announced the results of a six weeks' experiment with quick-frozen products at Springfield, Mass.

"Using the first week of the experiment as a base, total sales of the frosted food products have increased at a rate of from 25 to 40 percent per week, according to Colby M. Chester, Jr., president of General Foods. Ten representative grocery stores have been conducting the experiment at Springfield.

"'The ready acceptance by the public of quick-frozen perishables indicates benefits for several large industries,' according to Mr. Chester. 'Many of the 400,000 grocery stores in the United States will be potential users of new electrical refrigeration equipment. The automobile industry will be called upon for special trucking facilities. Railroads and ships will be used for the transporting of frozen food products over long distances. Farmers will be able to sell perishables which are now at least partially wasted. Housewives will have the equivalent of fresh perishables at all times of the year.'

"At Springfield, the quick-frozen foods include packaged meats, fish, oysters, fruits and vegetables. The largest gains from week to week were made in the meat items, particularly the more expensive and larger cuts. Careful check has been kept to observe the 'repeat' business. On a recent Saturday, 76 percent of the sales were made to customers who had been purchasing frosted foods previously, and the remainder were new customers, accounting for the increased business.

"'The number of individual sales made on Saturday, April 5,' said Mr. Chester, 'increased 33.4 percent over sales made March 29, the previous Saturday. March 29, in turn, showed an individual sales increase of nearly 40 percent over Saturday, March 22.

"'Total dollars sales for the same two Saturdays increased 40 percent. It is significant that the rate of increase of dollar sales is higher than the rate of increase in the number of sales made.

"'In the four stores where meats were handled prior to the test, Birdseye frosted foods are in direct competition with established meat markets. The rate of sales increase for frosted foods in these combined meat and grocery stores has been more rapid than in the group of ten stores considered as a whole.

"'This increase, coming at the conclusion of six weeks of continuous operation, seems to establish Birdseye frosted foods on firm ground. Novelty buying may be safely assumed not to have extended over such a considerable period of time.'"

Continued gains in volume of business with the Birdseye products are reported by the ten stores handling the line. On Thursday and Friday of the week preceding Easter a heavy business was done in fish and oysters. Meat sales were not so heavy during Holy Week, and on the Saturday before Easter the customary drive in hams resulted in fewer beef and lamb roasts being sold. This also affected the demand for steaks to some extent.

In general, however, the sales trend is said to be constantly on the increase. Friday and Saturday specials are used to stimulate the week-end demand. On April 11 and 12 the leader was a pound of sirloin steak and two packages of spinach, all for 79 cents. On April 18 and 19 a pound of top round steak and two packages of spinach were put out at 64 cents.

A Tuesday and Wednesday special on the closing week of Lent, consisting of a pound of haddock fillets and two packages of spinach, all for 39 cents, brought a good response at the various stores. Sirloin roasts of beef are still sold at 38 cents, and leg of spring lamb at 39 cents at the week-end sales. Cherries, raspberries and loganberries continue to be in excellent demand.

The most marked development of late has been in the interest exhibited by market men and grocery proprietors of other cities, who have come to this city in numbers to observe the merchandising of the Birdseye products and sound out the possibilities of getting franchises for the sale of the foods. Three marketmen of a small but aristocratic nearby, as a rule, and keeps a check on temperatures, operation costs and general performance. Kelvinator men also are keeping close tab on the workings of their units in this connection. A factory representative has recently concluded a detailed examination of store operations here. Data thus obtained are carried back and checked with data compiled at the plant laboratories. The manufacturers are admittedly working toward cabinets that will afford greater storage capacity.

Birdseye "Frosted" Beef Sandwiches are in Big Demand at Stores

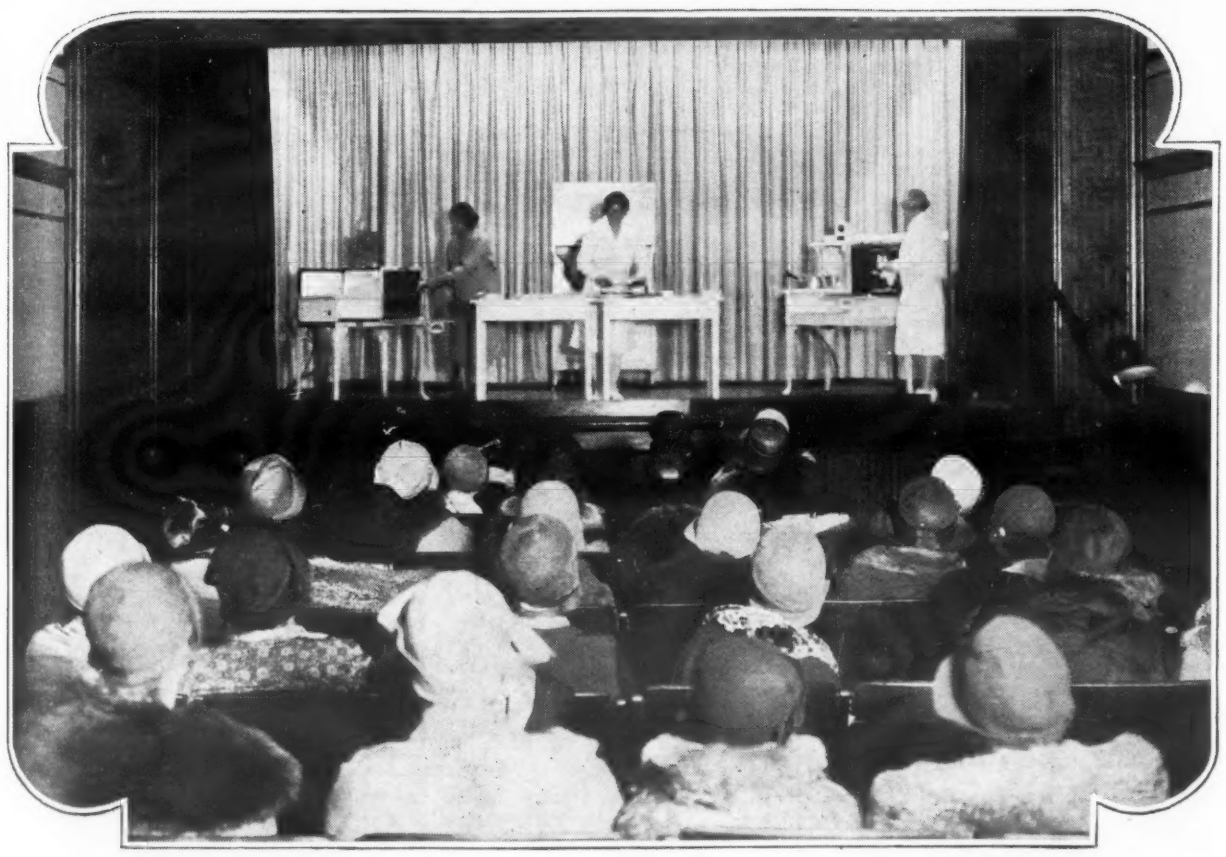
The stores selling the frosted foods have had plenty of mere visitors during the campaign. A large number of persons from out of the city, including dealers from Eastern Massachusetts, Vermont, New Hampshire, Maine and Southern New England have visited the stores to inspect the goods and obtain information about the merchandising methods. Many of them carried away packages of the foods to try. Springfield families using the foods, who entertain visitors from out of town, tell them about the new system and this leads them in frequent instances to make a personal investigation. Thus the knowledge of the quick-frozen line has spread far beyond the limits of this community.

Such inquirers evidently see particular advantage in the fact that the deboning and accurate weighing of meats, taken in connection with uniform quality for any grade and variety, enables the purchaser to know just how much he is getting, thus avoiding disappointment when the dinner is cooked and served. This appeals strongly to many persons even before they have had an opportunity to test the quality of the foods.

Hartford residents show an increased interest in these foods and visitors from that city have expressed a hope that they might have an opportunity to purchase them in that city. Many are looking forward to having the foods for week-end dinners at shore and mountain resorts this season. Week-end migrations from Springfield and nearby cities to the resorts are heavy throughout the summer. This will do much, it is expected, to spread the popularity of the refrigerated foods.

Trade in the foods in this city has been so well established that it promises to show a continued growth without the stimulus afforded by lectures and demonstrations, though it is believed these may be given from time to time. With the passing of the Lenten season, meat sales are expected to be more of a factor than they have been hitherto.

Women are Anxious to Learn About Cooking the Quick-Frozen Foods



by city are said to be in competition for the privilege. Others from distant as well as neighboring places have been here on a similar mission. The packing houses continue to keep an eye on developments, and a Chicago man who is said to be in the business of manufacturing food containers, recently came here and ordered an assorted line of the foods to be shipped to his Chicago establishment.

Even the more conservative market men, who have pooh-poohed the frosted foods as a passing fad, manifest an interest that belies the indifference they feign. It is coming to be recognized pretty generally in the retail trade that the quick-freezing process with the merchandising methods that go along with it is an element to be reckoned with. Sales of the new foods lend support to this conviction.

Representatives of refrigerator manufacturers are improving the opportunities that the drive affords for observation and experimental work. The Frigidaire Corporation has kept one of its engineering staff on the scene constantly since the campaign opened March 6. He visits each store where Frigidaire equipment is used twice each

DETROIT'S GREAT HOMELIKE HOTEL

IN THE VERY HEART OF DETROIT

THE TULLER is the headquarters for tourists and travelers. Delightfully furnished, homelike atmosphere. Abundance of air and sunshine, large, spacious lobbies and lounging rooms. Famous for our restaurants.

800
ROOMS WITH BATH
$2.50 and up

HOTEL TULLER
Facing Grand Circus Park
HAROLD A. SAGE, Manager

HERE'S THE SEASON'S GREAT SALES OPPORTUNITY!

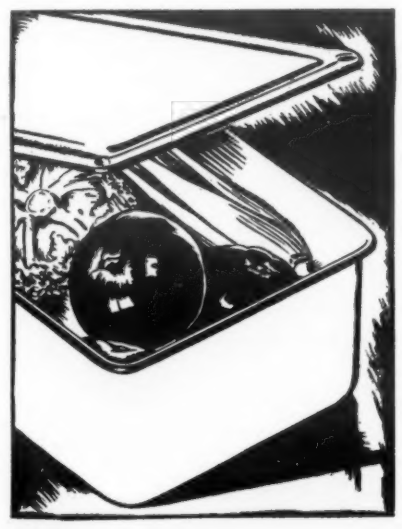
The
VOLLRATH VITALIZER
supplies the demand for a ventilated pan for mechanical refrigerators

Now made in a full range of five sizes

Every owner of a mechanical refrigerator now wants a ventilated covered pan for keeping vegetables fresh and crisp.

The Vollrath Vitalizer meets this demand with a full range of five convenient sizes to meet every requirement.

First made in four convenient sizes to retail at $1.85, $2.60, $2.75 and $3.70, there has just been added a fifth size (retailing at $2.75). (*Prices slightly higher in some states.*) We can make immediate shipment of all sizes. Make the most of this golden opportunity.

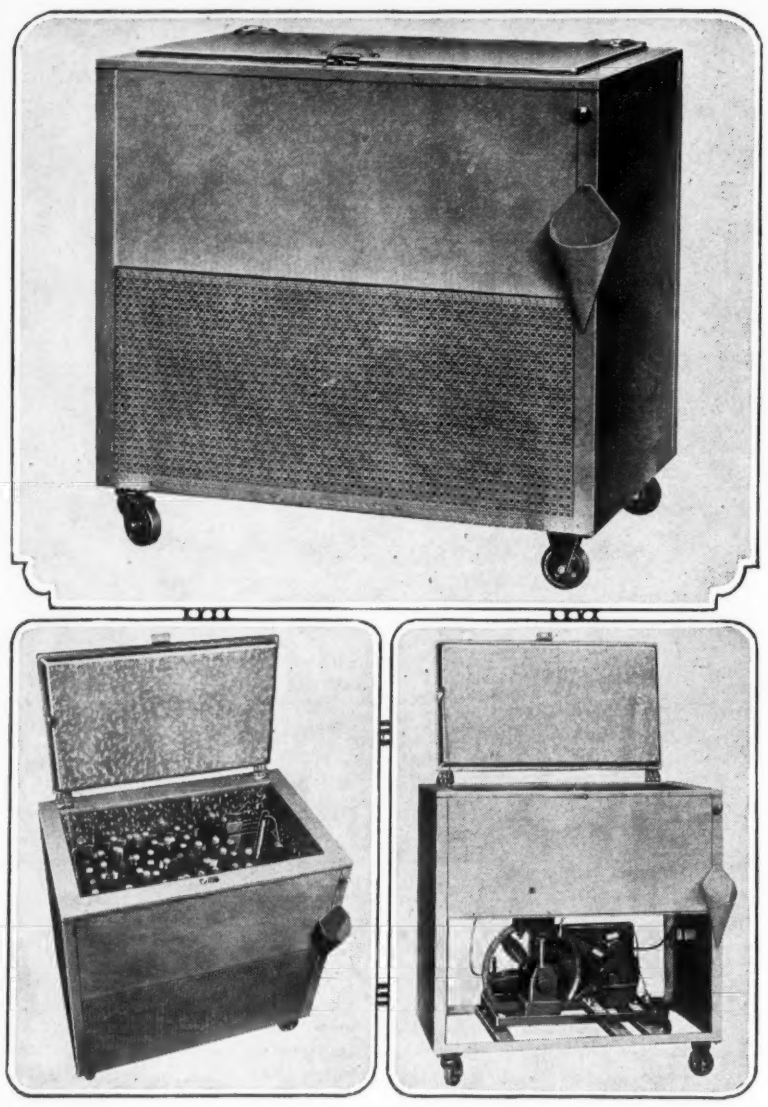


Don't forget the Vollrath line of Refrigerator Dishes, Covered Jugs and Ring Molds. You can sell one or more of these items with nearly every sale of a Vitalizer.

Mats of newspaper advertisements are available in 200, 100, 75 and 50 line sizes.

THE VOLLRATH COMPANY · Est. 1874 · SHEBOYGAN, WIS.

Portable Cooler Permits Quick Service to Motoring Trade



Three views of the new bottle beverage cooler recently announced by Kelvinator. In the lower pictures, storage and machine compartments are reproduced.

TO meet a definite demand, the Kelvinator Corporation, Detroit, manufacturer of electric refrigerators for household purposes and commercial equipment, has brought out a bottled beverage cooler. This new product is designed so as to appeal to a new field, such as roadside stands, filling stations, seashore and other resort refreshment stands, etc. The cooler can also be used as a bottled milk cooler in small groceries, delicatessen shops and the like.

The new cooler is of the dry expansion type, employing an expansion coil around the inside of the cooling compartment. The coil is protected from damage by bottles, and has a safety overflow feature. Means are provided for emptying the water bath without the use of a syphon hose. The cooler is thermostatically controlled, the thermostat being located in the machine compartment with an extended bulk immersed in the water bath.

The cabinet is well insulated with Kelvatex, having two and a half inches on the sides, front and top, three inches on the back, and four inches on the bottom. The machine compartment accommodates a Kelvinator refrigeration unit, and is regularly furnished with a removable front and rear panel of the metal cane type. The cooler is mounted on rubber-tired, ball-bearing casters of large diameter. This feature permits the cabinet to be wheeled about with ease. It can be rolled to the curb to enable motorists to be served without leaving their cars. Each cooler is equipped with a bottle opener and removable receptacle for bottle caps.

The cabinets are 40½ inches wide, 25¼ inches deep by 39 inches high, and will hold 77 standard sized beverage bottles. The cooler has a cooling capacity of from 80 to 100 bottles per hour. The cabinets are finished in light green.

FREEZING BERRIES

OVER the radio, the United States Department of Agriculture has announced its Farmers' Bulletin No. 148T, which summarizes the study made in preserving berries by the frozen pack method. For some time the department has been investigating methods of freezing berries grown in the Pacific Northwest.

REVOLUTIONARY CHANGES

Hartford, Conn.—M. T. McGee, of the Automatic Refrigeration Company, was the principal speaker at the quarterly meeting of the Hartford County Farm Bureau directors, recently held at the County Building. Mr. McGee took as his topic the marketing of quick-frozen foods. He predicted that the growing popularity of this style of food would bring revolutionary changes in the marketing processes of the whole nation.

The quick-frozen food industry, he said, would make possible edible foods ten years after freezing. It will be possible, he declared, to purchase frozen lamb chops or a porterhouse steak at the corner drug store. Mr. McGee exhibited samples of frozen foods shipped east from Chicago two weeks previous.

These quick-frozen foods included fresh fruits such as strawberries, which were frozen with extreme rapidity at a temperature of 75 degrees below zero. The process is with dry ice. Packed in dry ice so cold it burns the hands, the food retains its original flavor and aroma, Mr. McGee explained.

WATER COOLING

Cleveland, Ohio—The water cooler field is unlimited, commercial managers of the General Electric refrigerator department were told at their conference here. With the announcement of new water coolers, W. E. Landmesser, commercial manager for the electric refrigeration department; John Gaines, water cooler specialist; engineers and others emphasized the market potentialities.

"Too frequently some of us will underestimate the possibilities for water coolers in the territory," Gaines told the distributor commercial managers. "If you have been unable so far to survey your territory, a fair idea of what the prospects are may be gained by getting in touch with the commercial department of your local telephone company. The number of commercial subscribers on their line represents the number of business establishments in your community. While we know that all of these people will not immediately purchase electric coolers from us, any more than every home will buy domestic refrigerators, we know that a carefully applied plan will produce results in this enormous market.

"Everybody drinks water and there is hardly a city where cooled water isn't considered a necessity in most business establishments.

"Electric water coolers have a ready market. They supply palatably one of Nature's necessities, and meet an enormour need because they render this service in an automatic, clean, and economical manner. There are no markets where fool-proof service-free mechanisms are so necessary as in business establishments."

Charts showing requirements for cooled water in various classes of the market were presented:

Class of User	Proper Temperature	Capacity Allotment
Office buildings and schools	50	.1 gal. per hr. per person
Light manufacturing	50–55	.15 gal. per hr. per person
Heavy manufacturing	50–55	.2 gal. per hr. per person
Theaters	50	1.3 gal. per hr. per 100 seats
Restaurant (table service)	45–50	.1 gal. per hr. per person
Cafeteria service	45–50	.08 gal. per hr. per person
Retail stores	50	1.0 gal. per hr. per 100 persons
Transients in office building	50	1.0 gal. per hr. per people per day
Hospitals	45–50	1.0 gal. per hr. per 12 beds, plus .1 gal. per hr. per attendant

As an example, it was pointed out, in a heavy manufacturing concern, employes would consume an average of .2 of a gallon of water per hour, which would mean 40 gallons per hour in the case of 200 employes. The new DP-1 cooler would deliver 5 gallons of water per hour, cooled from 80 degrees to 50 degrees, and therefore eight coolers would be required, or one cooler for each 25 people.

Proper location of coolers, in order that little time be lost on the part of employes, was emphasized.

The design of the DP-1 water cooler is very simple and it is so constructed that its efficiency is greatly increased.

"General Electric coolers, properly placed, effect a saving in time to employes and by delivering water at the most palatable temperature it encourages users to drink a sufficient quantity of water to satisfy, resulting in a further time saving, particularly in the morning, when the water of average iced coolers is much too cold to permit one to drink in sufficient quantities, which causes frequent trips to the cooler," Mr. Gaines says. "The constant temperature maintained by the General Electric makes it unnecessary to hold the spigot open to secure palatable water, and thus water losses are saved. The coolers cost little to operate."

SODA FOUNTAINS FOR FOOD STORES

THE soda fountain is now making its debut in food stores, where patrons may stop for a moment or two to partake of cool refreshments. Modern food stores, such as the Model Grocery in Pasadena; Hamilton's of San Diego; California Food Store, Santa Ana, and several others, according to the *Soda Fountain*, have recently installed soda fountain equipment.

"A New Food Vision"

Gove Hambidge in Ladies' Home Journal Paints Alluring Picture of Future Food Store

ONE measure of the country-wide interest in quick-frozen food is the number of articles on the subject that have appeared recently in national popular magazines. Of all the articles which have appeared, that which presents the best picture of the possibilities of the new frozen products is entitled "A New Food Vision" and was printed in the September, 1929, issue of the Ladies Home Journal. Space does not permit the reprinting of the entire article, so much of interest about Clarence Birdseye and the General Foods Corporation is omitted. So much has been published in the Refrigerated Foods section of Electric Refrigeration News, about Mr. Birdseye and the work of the General Foods Corporation in pioneering quick-frozen foods, that they doubtless will pardon the omissions.

Readers who wish to have the complete articles can find it in the Ladies Home Journal of last September, or possibly may obtain it from the General Foods Corporation of 250 Park Ave., New York, as that company had the article reprinted for distribution in Springfield, Mass., where it is conducting its sales campaign.

The part reprinted below shows that the author, Gove Hambidge, has made a thorough study of the situation, and as a result of that study, sees a splendid future for quick-frozen foods.

WE are beginning to realize that up under the aurora borealis nature long ago worked out a perfect method of food preservation. By applying this method, it looks as though we shall be able to wipe out seasons.

"Treat foods properly with polar temperatures, carefully controlled, and you can keep fruits, vegetables, fish, flesh, fowl, milk, butter, eggs, beautifully fresh for some months, some perhaps even for years.

"So startling and so revolutionary is this new conception of food handling that food men themselves do not yet know where it will lead.

"You and I as consumers have in the past been more or less prejudiced against frozen foods. Somehow they didn't taste right, they didn't look right. The prejudice worked in some cases unjustly; we even carried it so far that we were prejudiced against cold storage in general, though heaven knows how we would get along without it.

Former Prejudices

"Well, to some extent our prejudices against frozen foods were right. A piece of frozen meat, for example, was likely to be a pretty dry, tasteless affair. It was something like a bottle of ginger ale that has been allowed to stand overnight uncorked. And food men realized this and it worried them, and they wished there was some way round the difficulty.

"Now the way appears. The trouble seems to be not that food men used cold as a method of keeping foods fresh, but that they didn't use enough of it.

"To take meats as an example again: It would appear that meats are likely to be dry and tasteless, for good understandable reasons, when they are frozen slowly at comparatively high temperatures. By the older methods it is a matter of days before a carcass is frozen. But if that carcass is cut into smaller pieces so the cold acts more quickly, and if the temperature is carried down below zero, even well below zero, then the freezing is a matter of hours or minutes, and the meat is not dry and tasteless. It remains—again for good understandable reasons—juicy, firm, rich with its original color and flavor. When it is thawed out ready for cooking, it is a piece of normal fresh meat, and may be a little better-looking than you usually get.

"Aviation would have gotten nowhere if we all had insisted on keeping one foot on the ground. You have to get off the earth to fly. Similarly it would seem that you have to go the whole hog to get the real benefits of freezing.

"Let me give you a picture of a food store of the future as it will look when this new conception of cold gets into large-scale operations. It is not a grocery store, or a meat market, or a fish market, or a delicatessen, or a dairy, or a fruit-and-vegetable market. It is all these rolled into one. It is a Food Store, in the broadest sense of the words.

Experimental Campaigns

"Nor is it necessarily a store of the far-distant future. To some extent, at least, it may be in operation this fall or winter. If plans now on the books work out, certain stores in selected cities throughout the United States will be equipped and operating in the new way. You will visit them and buy from them. After that, their spread will be as rapid as circumstances permit.

"This new kind of food store, then, is quite immaculate, not to say scientifically sterile. There are no open boxes or bins around to serve as catchalls for dust, flies and bacteria. Practically everything in the store is put up in sealed packages of convenient size, ready to be handed to the consumer.

"You walk along one side of the store.

(*Concluded from Opposite Page*)

New Binders now ready

for keeping your copies of

Electric Refrigeration News

In providing new binders for readers who like to keep back issues of the news in accessible form several improvements have been made.

The new binder is of larger capacity than the old because of the increased thickness of the paper. Twenty-seven metal retaining strips are furnished, since 27 issues will be published in 1930. The metal strip is inserted easily and quickly at the middle of each issue and does not "pinch" the paper at the binding edge. Every page lies flat and all type matter is easily readable.

On the new binder the name "Electric Refrigeration News" is neatly stamped in gold on the back binding edge as well as on the top cover. The binder has stiff covers of good quality black imitation leather.

You'll find the binders mighty good-looking and very convenient. A flip of the finger brings a back issue before you when you want to look up an article—an illustration—some information. Buy a binder!

Shipped postpaid upon receipt of $3.75.

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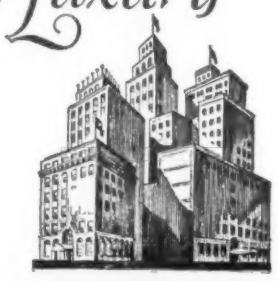
Electric Refrigeration News

550 Maccabees Bldg., Detroit

Enjoy the Luxury of a

PARLOR BEDROOM & BATH

at about the cost of an ordinary Hotel Room



WASHINGTON ~ D. C.

CAVALIER HOTEL
3500 14TH Street

NEW AMSTERDAM HOTEL
2701 14TH Street

PHILADELPHIA

CHATHAM HOTEL
Walnut Street at 20TH

MADDUX HOTELS

PARLOR ~ BEDROOM & BATH ~ $5.00 TO $7.00

Single Room with Bath $3.00 to $4.00
Double Room with Bath $4.00 to $6.00

Less by Week or Month

"NEW FOOD VISION"

(*Concluded from Opposite Page*)

There, on shelves and counters, is the usual array of canned and packaged foods, jams, preserves, vegetables, soup, cereals, coffee, tea, bread, rolls, cake, and the rest, neatly stacked and price-marked.

"You walk along the other side of the store. Here the revolutionary new things meet your eyes. This is the side devoted to fresh foods. This side of the store is one great refrigerated display case, probably colder than anything of the sort now used. Right now, as I write, gas and electric refrigerator manufacturers are working on the problem of making such store refrigerators. It is their next big job.

"One part of the display case, perhaps, is devoted to fish. Here are filets of haddock and sole and mackerel. Here are cod, salmon, pollock and redfish steaks. Here are the panfish, flounder, haddock and whiting. Here are the soft clams, oysters, soft crabs, the shrimp that blushes, the meat of the exquisite lobster. Here is the fish loaf and yonder is fish sausage. Everything has been done that is necessary to make them ready to pop into pan or oven. Tails, heads, bones, scales or skin, shells and internals have been politely removed at the seashore. You get meat only, all edible, some even cut in individual portions, and packed in neat waxed cartons hermetically sealed.

Meats, Vegetables, Fruits

"The next section, as you walk along, is perhaps devoted to meats. Here, again packed in neat cartons, or maybe wrapped in transparent cellulose so you can see exactly what you are getting, are chops of lamb, pork or veal. Here are legs, shoulders or saddles of lamb for roasting, and roasting cuts of beef and pork. Here are sweetbreads, lamb kidneys, calves' liver, bacon and rabbit meat. Here are plump chickens for broiling, roasting, fricasseeing, and there the toothsome capon. Here is the adolescent squab and yonder the juicy duck. All of these, too, are ready for immediate cooking. Superfluous fat and bone are already trimmed off steaks, chops and roasts, and the fowl is daintily dressed.

"Maybe the next section has been contributed by the market gardener. Here you find—also packed in neat sanitary cartons, mind you—green peas, string beans, spinach, rhubarb, asparagus, tomatoes, cauliflower, and the innocent carrot. And these again are ready for the pot. The peas are shelled. The beans are stringless and cut into decorous pieces. The spinach is washed free of all grit and dirt and the stems are cut off. The carrots are washed, scraped and neatly sliced. The asparagus has lost its tough end. The cauliflower is cut into pieces of proper size. The tomatoes look as polished as a Virginia gentleman of the old school.

"Next to the vegetables, perhaps, come the fruits. Here are buxom strawberries; and by lifting a flap in the bottom of the waxed carton, you can see through the inner wrapping of moisture-proof transparent cellulose, that the berries on the bottom are as choice as those on the top. Here are red raspberries, blackberries, loganberries, blueberries, cranberries. Here are plump red, yellow and black cherries. Yonder are artistocratic grapes. Here is fresh diced or sliced pineapple, and next avocados and all manner of fruits from the tropics. Possibly there will be fresh, unsugared orange juice, grapefruit juice, lemon juice, and maybe oranges and grapefruit ready peeled and divided into sections.

"Somewhere along the line, probably, there are the products of the dairy. Milk, cream, butter. And eggs.

"Now, if a retail butcher happens to read this article, he will probably be after my scalp for suggesting that meats will be handled ready prepared, put up in trade-marked packages, in a retail store. Where, he will say, do I get off? I sympathize with him; confidentially, I had a grandfather who was a butcher and a cattle judge. But I would say this: Hold on, brother. This idea is merely based on the fact that many grocery stores today already carry meats, just as some drug stores handle everything and a few drugs. But there is room for all of us.

"But I firmly believe that meats are going to be handled in consumer packages, ready for cooking. The wide-awake dealer will be ready for it if it comes. Maybe he will handle other things too. He will cut out some unprofitable work, devote more time to real selling, find the people that use more meat in the new way, and increase instead of lessen his business—if he is willing to understand and serve modern demands. But please, brother, let me keep my scalp.

"But this is an aside.

The Modern Trend

"This whole idea of handling foods with cold goes hand in glove with other modern trends. You will buy even fresh vegetables as you now buy coffee and crackers, trade-marked, uniform in quality, with the packer's guaranty behind them. The thing is neat, it is sanitary, it lessens the work of the housewife. It saves the consumer's time and the dealer's time.

"And it is economical in that it cuts down waste and lowers shipping cost.

"Back of the retail store is the wholesale market. To take an example: In the wholesale produce market of the present, with its fruits and vegetables packed in barrels, boxes, crates, hampers, there is bound to be a certain amount of waste; less than there was in the past, but still considerable. A trainload of delicate vegetables may spoil before they reach the consumer. The new process eliminates this spoilage. Vegetables, fruits, meats can be caught in the prime of life and held there beyond doubt of peradventure until someone eats them. This is economy Number One.

"Economy Number Two: Most meats and vegetables must be shipped along with a considerable amount of waste. A carload of spinach is one-third dead weight; also, the shipper pays for a good deal of space occupied by air, necessary to keep the spinach alive. With the new process, the spinach can be packed closely—no air space; it is prepared for the pot at the packing plant—no useless weight. Moreover, pea pods can be made into rayon stockings or wallboard or something. Some meat trimmings make good food that should not be wasted, and some make valuable by-products. Spinach grit might, from the way it feels, cover miles and miles of sandpaper, and the energy wasted on dark thoughts about gritty spinach might send an airplane to the moon.

"Economy Number Three: Many or most perishable products are seasonal. In times of glut, thousands of tons of good food are thrown away or sold below cost of production. Both canning and cold storage help tremendously in lessening this waste. The new process should help to give it the death blow. If milk and cream and butter can be held over from months of peak production to months of scarcity, the price curve should be flattened out; the consumer should pay less, the farmer should get more. If a bumper crop of strawberries can be held for a couple of years, the producer will not be hit below the belt, and you and I will pay less for shortcake in two poor strawberry years.

"A vice-president of the General Foods Corporation remarked when he was telling me about the process his company controls. 'Seasons will mean nohing—absolutely nothing.' And Clarence Birdseye told me that he and others put up enough fancy broilers, ducklings and squabs each spring to last them throughout the year.

"Obviously, it costs more to sell shell peas and pack them in classy little cartoons than to sell them loose, unshelled. But because of these economies and others, it is likely that the shelled peas, out of season at least, will be the cheaper, edible pound for pound—besides saving housewives from getting pea-sheller's thumb, which, sufferers tell me, is much worse than writer's cramp.

"Frozen strawberries, raspberries and other fruit are not so new. With slow freezing, which takes from twelve to fifteen hours, the use of sugar is practically essential. By quick congealing, the work of twelve hours is done in one hour. And sugar is unnecessary. The fruit is held just as it was when picked.

"There is plenty of hard work still to be done. No one yet knows the full possibilities of quick congealing. We only know that by patiently studying the old ways of Dame Nature, we can do strange new things."

ATTENTION

Service Managers of Cabinet Service Departments

By having J. Moss & Sons replace your monel tops, panels, collar rings, revamp old lids like new, and other worn or broken parts, your present ice cream cabinet can be reconditioned to look and wear like new.

We give you the highest quality obtainable and our prices will save at least 20 per cent on replacement expenditures. And you can depend on our prompt service. Write or wire for price lists and additional information.

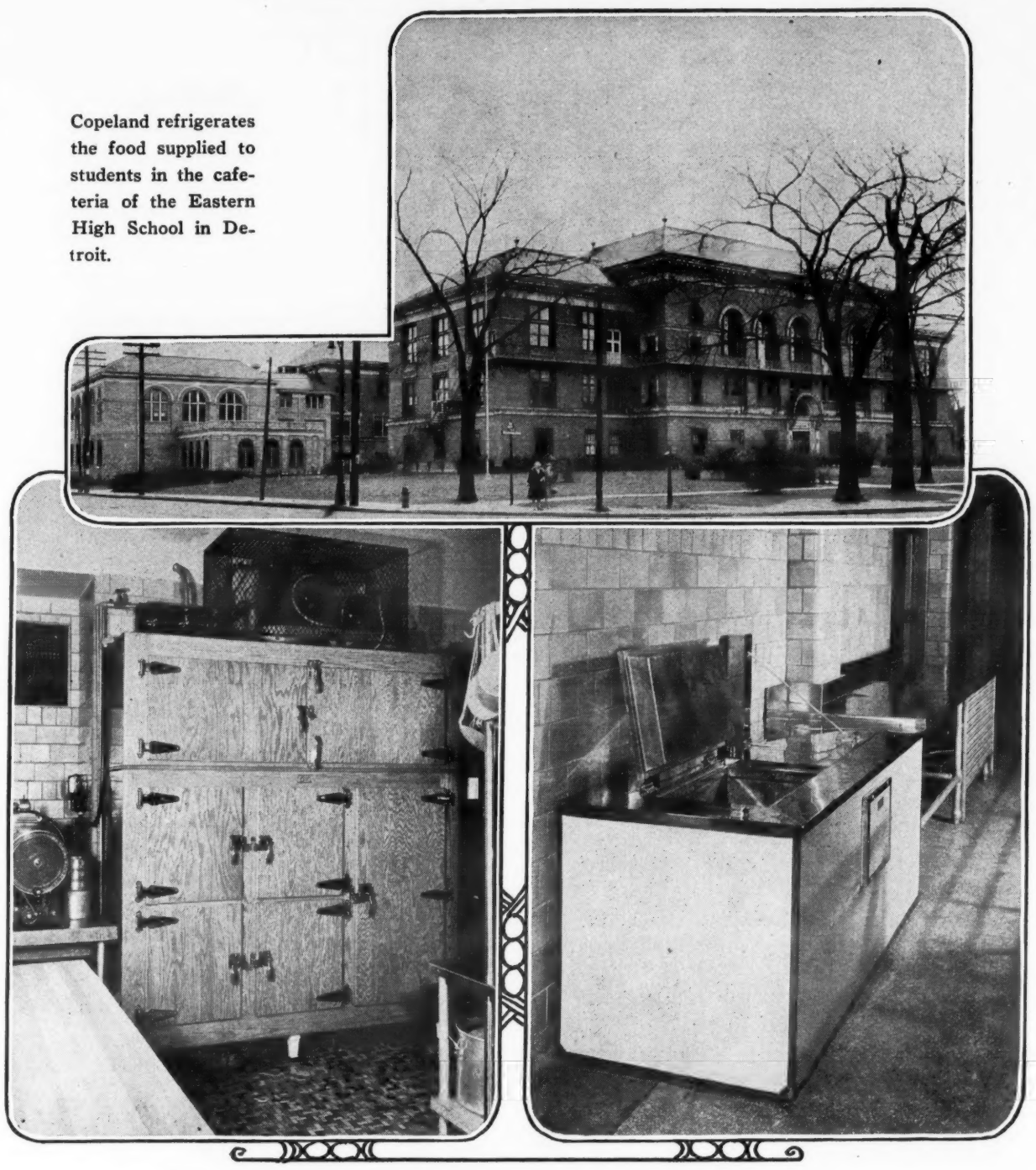
Also *Manufacturing Sheet Metal Parts and Stampings*

J. Moss & Sons

630 Hudson St. New York City

Properly Cooled Foods Spell Safety for Boys and Girls in Detroit School

Copeland refrigerates the food supplied to students in the cafeteria of the Eastern High School in Detroit.



Chrysler-Koppin and Seeger equipment do their bit

COPELAND equipment was specified in the refrigeration features of what has been declared to be the most completely electrically equipped school restaurant in America—that of the Eastern High School, Detroit, Mich. The restaurant has just been opened in a recently completed addition.

Electricity operates everything, from the bread cutter and potato peeler to the cashier's adding machine. Every electric device yet produced and found practical in cafe kitchens is incorporated in the culinary layout of this new restaurant. Maximum completeness was essential because of the rush nature of the patronage. More than 2,400 meals are served in less than two hours. Half of this number is disposed of between 10:30 and 11:30 A. M., and the other half between 12:30 and 1:30 P. M., each student or teacher patron being able to devote less than 20 minutes to the task of eating.

The refrigerating equipment consists of two special Chrysler-Koppin cabinets, operated by a Copeland X-1200 condensing unit, and two milk coolers, each with a capacity of 270 bottles, operated by a Copeland R-516 unit. In addition to supplying refrigeration storage, the cabinets are equipped to produce hundreds of ice cubes each.

CHINESE

Have Aversion to Cold Food and Drink

THE American slogan, "Keeping up with the Joneses," has its counterpart in China. There it might be called, "Keep up with the Wah Lees."

Among Chinese families there is a rivalry indeed—a rivalry just as evident as that existing on Main Street in Punkin Center. In China, he who fails to "keep up with the Wah Lees" is on the social down grade. As the Orientals quaintly put it, he "loses face."

In the selling of electric refrigerators in China, the salesman must give due consideration to the "keeping up with the Wah Lees" idea, says Colonel J. M. Wright, Far Eastern regional manager of Frigidaire Corporation. Provided a Chinese is of the class that can afford modern conveniences, he will go to considerable lengths to keep his neighbor from outfacing him.

However, the salesman of electric refrigeration in China has one tremendous obstacle to overcome in his work. And this is the idea—an idea that has prevailed through centuries—that people who take their food boiling hot continue to live, while people who indulge in cold foods meet untimely deaths.

"Cold foods and cold drinks are anathema to the Chinese generally," says Colonel Wright. "Generation after generation has taken its food red hot. To do a good job of selling electric refrigeration, we must change an ingrown habit of thousands of years."

Sales of electric refrigerators in China are made for the most part in Shanghai and in other large cities. In Shanghai, for instance, about as many Chinese as Americans and Europeans are buyers of electric refrigerators. These Chinese are of the educated class; many of them, in fact, educated in the western world.

Outside the cities, Colonel Wright declares, it is fatal to try to "keep up with the Wah Lees." Fatal in the fullest sense of the word. There is ever present the danger of losing not "face," but one's head.

"The interior of China is beset by large numbers of warring chiefs of private feudal armies," he explains. "If a man buys a luxury or a convenience, such as an automobile, a farm appliance or any one of a great number of things, he is immediately looked upon as a person of substance and legitimate prey for bandits or roving gangs of soldiers. So, if he tries to keep 'face,' he may lose his head."

EQUIPS CAFTERIA IN LARGE FACTORY

Bridgeport, Conn.—Frigidaire Sales & Service, 540 Fairfield Avenue, has completely equipped the cafeteria operated by the American Chain Co. at its east Bridgeport plant. An AP-18 refrigerator and large water-cooler comprise the new equipment, while the cafeteria's storage box was mechanized, according to K. D. Woundy, service manager. The new cafeteria is making a hit with the employees.

The Imitation Food Products Co.

(Branch of The Artistic Production Co.)

107 Lawrence Street

Brooklyn, N. Y.

Ask for our catalog of January 1, 1930. Direct sales only. "Indispensable with refrigerator display."

This is a National Message to the American Housewife

Get the most out of your ELECTRIC, GAS *or* ICE *Refrigerator*

Send $1.00 for the two big 50c rolls (West of Missouri and South Coast States 60c per roll, both for $1.20 postpaid).
FREE: When ordering mention this ad for a Miracle Paper Dish Rag and interesting samples for You and Your Friends.

YOUR refrigerator will serve exactly and according to intelligent use and operation, and your palatable, health building foods will speak for themselves when served.

Are you using both KVP Refrigerator Papers? Try the famous pair—Heavy Waxed Paper in "Cutter Box"—it seals tight (one sheet will do) keeps the moisture in or keeps the moisture out as desired. However, remember all foods should not be wrapped in Waxed Paper—for 100% results you also need KVP Household Parchment, the waterproof paper for cooking and for wrapping all moist, greasy and wet foods—a cheesecloth substitute (you can boil it) like a rag when wet—use it again and again—it wears.

Try your Grocer, Stationer, Hardware, Department Store and Naborhood Merchant first; if they cannot serve you KVP will pay the parcel post.

KVP STANDS FOR "THE WORLD'S MODEL PAPER MILL"
KALAMAZOO VEGETABLE PARCHMENT CO.
KALAMAZOO MICHIGAN U.S.A.
MANUFACTURING WORLD-WIDE FAMOUS FOOD PROTECTION PAPERS

IF you are in any way interested in Electric or Gas Refrigeration ... read the above over twice because it will mean much to you. .. this is our National message to the American Housewife in cooperation with your refrigerator sales campaigns. Write for samples and advertising ideas that sell your refrigerators to new customers and keep old customers interested